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TAX REFORM, GROWTH, AND EFFICIENCY

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TAX REFORM, GROWTH, AND EFFICIENCY

TUESDAY, FEBRUARY 24, 2015

U.S. SENATE,
COMMITTEE ON FINANCE,
Washington, DC.

The hearing was convened, pursuant to notice, at 10:20 a.m., in room SD–215, Dirksen Senate Office Building, Hon. Orrin G. Hatch (chairman of the committee) presiding.

Present: Senators Crapo, Thune, Isakson, Portman, Coats, Scott, Wyden, Schumer, Cantwell, Bennet, Casey, and Warner.

Also present: Republican Staff: Mark Prater, Deputy Staff Director and Chief Tax Counsel; and Jeff Wrase, Chief Economist. Democratic Staff: Ryan Abraham, Senior Tax and Energy Counsel; Adam Carasso, Senior Tax and Economic Advisor; Michael Evans, Chief General Counsel; and Todd Metcalf, Chief Tax Counsel.

OPENING STATEMENT OF HON. ORRIN G. HATCH, A U.S. SENATOR FROM UTAH, CHAIRMAN, COMMITTEE ON FINANCE

The CHAIRMAN. The committee will come to order. I want to welcome everyone to today's hearing to discuss tax reform, growth, and efficiency. I also want to thank our witnesses for appearing before the committee today.

Dr. Boskin, we are happy to have you as well. I missed you inside, I think. We are really happy to have you here, all of you.

While there are many objectives for tax reform, growth in jobs, wages, and the economy, along with improved efficiency of resource allocation, rank among the top. Many of us on the committee believe that tax reform is no longer optional. Rather, it is essential to help get our economy moving again, and I believe there is bipartisan agreement on the need for tax reform.

Ranking Member Wyden, for example, has been invested in reform for about a decade now. Other members of this committee have worked diligently in recent years to examine available options and tradeoffs. Our efforts continue with bipartisan working groups that we established to engage in studying the issues, examining tradeoffs, considering options, and arriving at recommendations.

The Obama administration also remains interested in bipartisan efforts to reform the tax code, with particular interest in business tax reform. I disagree with most of the aggressive, often anti-growth proposals in the President's recent budget aimed at significantly higher taxes on capital, as well as on savings and investment. Nonetheless, I welcome willingness on the part of the administration to engage in dialogue about how to reduce tax burdens on American businesses of all types, and how to improve the system

for working American families. And while there is no shortage of interest in tax reform, we need to continue to work in a bipartisan way toward action.

Today's hearing will allow us to hear from an expert panel of witnesses about their views on how we can reform the tax system to promote growth in wages, jobs, and the economy and, at the same time, reduce economic inefficiencies.

Issues surrounding how best to promote the efficient allocation and utilization of resources accompany any objective for promoting growth. In my view, we should minimize tax provisions that stand in the way of efficiently utilizing resources. And, while there are many issues surrounding how society values resource allocations, there are striking areas of our existing tax system that need attention.

For example, our statutory and effective corporate tax rate is far too high relative to our international competitors. This impedes the ability of U.S. firms to compete. And there are many tax-driven distortions in the tax code, but the list is too long for me to cover in the limited time I have available in my opening remarks.

By now I hope that everyone is clear on the principles that I believe should guide us as we examine tax reform. Prominent among those principles is that tax reform should significantly reduce economic distortions that are present under the current income tax system and promote growth in our economy.

I want to ask that each witness on today's panel identify in their remarks today what they believe are the most damaging aspects of our existing tax system from the perspective of growth in the economy and efficient utilization of resources.

Finally, let me just say that we must always remember that tax revenue comes from the economy and not from Congress. Tax revenue comes from the hard work of American households and businesses and not from bureaucrats in government. Congress should act as stewards of the resources it extracts from American households and businesses, not as primary claimants on those resources.*

[The prepared statement of Chairman Hatch appears in the appendix.]

The CHAIRMAN. With that, I am pleased to turn to our ranking member, Senator Wyden, for his opening remarks.

OPENING STATEMENT OF HON. RON WYDEN, A U.S. SENATOR FROM OREGON

Senator WYDEN. Thank you very much, Mr. Chairman. And, as you and I have discussed, there truly is a bipartisan window now for tax reform, and I very much look forward to working with you.

For our guests and for all concerned, I think Chairman Hatch is absolutely right that right at the heart of this debate is reducing the distortions, the economic distortions, that are brought about through this economic straightjacket of a tax code that we have today.

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*For more information, *see also,* "Economic Growth and Tax Policy," Joint Committee on Taxation staff report, February 20, 2015 (JCX–47–15), *https://www.jct.gov/publications.html?func=startdown&id=4736*.

Now, 2 weeks ago, the Finance Committee heard from two former Senators, a Republican and a Democrat, both architects of the 1986 Tax Reform Act, and they discussed an approach to tax reform that became law. It turned the impossible into the possible, and it was modern, it was targeted, and it found smart ways to spark economic growth.

Among other provisions of that proposal, they gave equal tax treatment to income from wages and income from investments. That is crucial to middle-class fairness. They preserved and expanded important policies that rewarded hard work, helped families buy homes, and made it easier to afford college. I think it is also important to note that they avoided partisan processes, like budget reconciliation, that would put the outcome at risk.

Now everyone here, especially our four guests, has been part of umpteen academic conversations about tax reform. Two weeks ago, this committee discussed an approach that actually worked. So in my view, it makes sense to build on that kind of bipartisan wisdom, and we ought to take on the challenge of developing a new modern plan that fits today's economy.

There are a host of examples where our broken tax system needs fixing. I just came from three town hall meetings across my State, and one of the concerns I hear at every one of these community meetings is the skyrocketing cost of childcare. For a long time, Americans have looked at mortgages, college tuition, and retirement savings as the big ticket expense for most families. Parents today say that that list is incomplete without considering childcare.

The programs in the tax code intended to make childcare more affordable have not kept up. Too often the benefits do not cut it. A lot of families get no assistance at all. For many, it is too meager. So a lot of parents across this country have a difficult choice. Do they both continue working and take on the huge expense of childcare, or will one of them have to sacrifice their career and stay home? That is a barrier to work that tax reform should pursue in order to make it possible for those families to get ahead.

Just like in 1986, it is time again to give fair treatment to wages and wealth. The code punishes middle-class wage earners by taxing their income at a higher rate than investments. Leveling the playing field is a matter of basic fairness. We heard 2 weeks ago that policymakers recognized that fact in 1986, and they ought to do it again.

The tax code also needs to encourage more investment in our country. It should do more to drive innovation, support manufacturing, and draw high-skill, high-wage jobs to America and our communities.

Today's broken code puts the U.S. at a competitive disadvantage in the world, and that too needs to change.

One last lesson from 1986 to remember: it would be a costly mistake for tax reform to heap a heavier burden on the middle class. That is a surefire way to slow down growth and set middle-class families back. A lot of families who struggle to make ends meet find assistance through the tax code. Let us not make life harder for them.

It makes a lot more sense to take the proven, modern approach to tax reform, an approach that I would summarize in a sentence:

let us give everybody in America the chance to get ahead. That was what was done in 1986 on a bipartisan basis. Let us build on it.

Thank you, Chairman Hatch.

The CHAIRMAN. Thank you, Senator Wyden.

[The prepared statement of Senator Wyden appears in the appendix.]

The CHAIRMAN. Our first witness is Dr. Michael Boskin. Dr. Boskin is the T.M. Friedman professor of economics and senior fellow at the Hoover Institution at Stanford University. He is also a research associate at the National Bureau of Economic Research.

Dr. Boskin served as Chairman of the President's Council of Economic Advisers between 1989 and 1993, where I got acquainted with him. He chaired the highly influential Blue Ribbon Commission on the Consumer Price Index, whose report has transformed the way government statistical agencies around the world measure inflation, GDP, and productivity.

Dr. Boskin received his B.A. with highest honors and the Chancellor's Award as outstanding undergraduate in 1967 from the University of California at Berkeley, where he also received his M.A. and Ph.D. in economics.

In addition to Stanford and the University of California, he has taught at Harvard and Yale. He is the author of more than 100 books and articles and is internationally recognized for his research on economic growth, tax and budget theory and policy, Social Security, U.S. saving and consumption patterns, and the implications of changing technology and demography on capital labor and product markets.

We are pleased to have you here today.

Our next witness after Dr. Boskin will be Dr. John Diamond. Dr. Diamond is the Edward A. and Hermena Hancock Kelly fellow in public finance at the Baker Institute at Rice University and an adjunct professor of economics. He is also the CEO of Tax Policy Advisors, LLC.

Dr. Diamond's research interests include Federal tax and expenditure policy, State and local public finance, and the construction and simulation of computable general equilibrium models. His current research focuses on the economic effects of corporate tax reform, the economic and distributional effects of fundamental tax reform, portfolio allocation, and various other tax policy issues.

He is co-editor of "Fundamental Tax Reform: Issues, Choices, and Implications," issued in 2008 by the MIT Press. Dr. Diamond is the forum editor for the *National Tax Journal* and served on the staff of Congress's Joint Committee on Taxation between 2000 and 2004. He received his Ph.D. in economics from Rice University.

Our next witness after Dr. Diamond will be Dr. Laura D'Andrea Tyson. Dr. Tyson is professor of business administration and economics and director of the Institute for Business and Social Impact at the Haas School of Business at the University of California at Berkeley.

She served as dean of the London Business School from 2002 to 2006 and as dean of the Haas School from 1998 to 2001. From 2011 to 2013, she was a member of President Obama's Council of Jobs and Competitiveness. And from 2009 to 2011, she was on the President's Economic Recovery Advisory Board.

She served in the Clinton administration as Chair of the Council of Economic Advisers and served as the President's National Economic Advisor. Dr. Tyson received her Ph.D. in economics from the Massachusetts Institute of Technology.

Our final witness today will be Dr. Jane Gravelle. Dr. Gravelle is a Senior Specialist in Economic Policy in the Government and Finance Division of the Congressional Research Service of the Library of Congress. She specializes in the economics of taxation, with emphasis on effects of tax policies on economic growth and resource allocation.

Her recent papers have addressed fiscal stimulus, tax rebates, consumption taxes, dynamic revenue estimating, investment subsidies, capital gains taxes, individual retirement accounts, estate and gift taxes, charitable contributions, tax reform, and corporate taxation. That is a mouthful.

She is also the editor of a biennial congressional compendium on tax expenditures. Dr. Gravelle is the author of numerous articles in books and professional journals. She is the author of "The Economic Effects of Taxing Income from Capital" and co-editor of the *Encyclopedia of Taxation and Tax Policy.*

Dr. Gravelle received a B.A. and an M.A. in political science from the University of Georgia and a Ph.D. in economics from the George Washington University.

We are honored to have all four of you with us today, and we appreciate you taking time from your busy schedules to be with us. We look forward to your remarks, and anything that will help this committee to do a better job, we are for.

So thank you for being here. We will start with Dr. Boskin, and then we will just go across the board.

STATEMENT OF MICHAEL J. BOSKIN, Ph.D., TULLY M. FRIEDMAN PROFESSOR OF ECONOMICS AND HOOVER INSTITUTION SENIOR FELLOW, STANFORD UNIVERSITY, STANFORD, CA

Dr. BOSKIN. Thank you, Chairman Hatch, Ranking Member Wyden, other distinguished members of the committee. It is a pleasure to be back before the Finance Committee again.

My time at the Finance Committee dates all the way back to Senator Long as chairman, and I have had the pleasure of working with the committee on many issues, including the 1986 tax reform that Senator Wyden mentioned. I do believe that if the stars align and once again you can pull the rabbit out of the bag, or do the impossible, a major tax reform has the potential to dramatically improve economic performance.

There are many aspects of the economy and of society that reform would affect, but I think its effect on economic growth is by far the most important. President Kennedy used to say that a rising tide lifts all boats. That is a bit of an exaggeration, but it does lift a lot more than any other tide, and it leaves far fewer stranded or sunk.

So in my view, other than our national security, restoring a more strongly growing economy is the Nation's most important priority. And it will also provide the revenues and the resources to supply services to the disadvantaged as needed.

The country's long-run potential is roughly the sum of its growth of the labor force and productivity, and productivity has declined substantially in recent years. Part of that is due to the recession, but even trying to net that out, economists are debating whether the technology that enhances productivity is waning and that the current and likely future evolution of technology will be not as attuned to increasing productivity and generally raising incomes. That is a debate that continues, and no one can really know what the next wave of technology will be. But the argument is that automobiles, electricity, things like that were far more fundamental than social networking and nanotechnology are likely to be.

We will see. But if we do not raise the rate of productivity growth, or we do not have a lot more workers than currently projected, our long-run fiscal position will be dire as the baby boomers continue to retire and the pressures on Social Security and Medicare mount. By my calculation, you would wind up having to raise the tax rates on middle-class families to unprecedented levels of 60 percent perhaps.

So aside from national security, that is our top priority. Taxes affect economic growth through their effect on saving, investment, technical change, entrepreneurship, and things of that sort. While other policies—regulation, trade, education, training, immigration, monetary policies—affect these things, tax and spending and, therefore, also debt policy are likely to be the most important.

Especially onerous, especially worrisome, is heavy taxation of capital that depresses capital formation, when we look at the combination of our corporate tax and the taxation of corporate source income at the personal level.

You can think of a level playing field both sideline to sideline, that is among types of investment, and goalpost to goalpost, and the purest way to get neutrality in both those directions is to have a consumed income tax which could be as progressive as desired, but would, by taxing the cash flows of businesses, be much simpler than our current system, although there would be a difficult transition to it. A large body of research suggests that there are very large potential gains from such a reform, and, of course, they would be scaled down if we only partially improve the system. In his presidential address to the American Economic Association, our most distinguished macroeconomist, Robert Lucas, estimates that that would increase incomes 7.5 to 15 percent every year from the phase-in forever.

Our relatively low national saving and investment rates are one of the reasons productivity is down, and one of the reasons hiring has lagged until the last several months. This is especially onerous because we have large unfunded liabilities in our social insurance programs and a rapidly growing debt. So, adding the disincentives from heavy capital taxation, we wind up having too little saving in investment and future growth.

Our corporate tax system, as Chairman Hatch mentioned, has the highest rate in the world of any advanced economy. We also do not have a territorial system, instead taxing worldwide income, unlike many other countries. Most other of our competitors have been reducing their corporate taxes. And while, when you look at the effective rate, accounting for deductions and credits, we are not near-

ly as far out of line, we still are out of line, especially when you include the personal taxes.

In short, we have a corporate tax system that is more in tune with 1965 than 2015. The OECD concludes in an exhaustive study that corporate taxes are the most harmful to growth.

So I think that moving toward a few tax rates with the top rate considerably lower than it is now, with a corporate rate that is roughly similar, and moving more toward consumed income on a broader base with most other preferences removed or capped, would be a tremendous improvement to the economy.

That is not going to be an easy thing to do, as Senator Long's famous quip about "don't tax you, don't tax me, tax the fellow behind the tree" implies. But if you go bold and try to do something broad and everybody shares some of the pain and gets most of the gain, I think it is doable.

The evolution of taxes and spending (and therefore also debt) will be a primary determinant of whether our economy rekindles a successful dynamism and provides rising standards of living and upward mobility that it has not provided for some time or whether, like Europe, we complacently slide into more economic stagnation.

Thank you.

The CHAIRMAN. Thank you so much.

[The prepared statement of Dr. Boskin appears in the appendix.]

The CHAIRMAN. Dr. Diamond, we will hear your testimony now.

STATEMENT OF JOHN W. DIAMOND, Ph.D., EDWARD A. AND HERMENA HANCOCK KELLY FELLOW IN PUBLIC FINANCE, BAKER INSTITUTE FOR PUBLIC POLICY, RICE UNIVERSITY, HOUSTON, TX

Dr. DIAMOND. Chairman Hatch, Ranking Member Wyden, and members of the committee, it is an honor to present my views on the importance of tax reform in promoting economic growth.

Serious consideration should be given to adopting a consumption-based reform rather than an income-based reform. However, if consumption-based tax reform is not feasible, current, personal income tax provisions that encourage saving should be maintained, but simplified. In addition, we should reduce the burden of the corporate income tax on investment income, possibly by adopting a cash-flow business tax.

In my written testimony, I discuss the macroeconomic effects of various proposals. In general, the results indicate that consumption-based reforms increase economic growth more than reforms of the current income tax system.

However, there are two keys that would lead to increases in the growth from base-broadening, rate-reducing income tax reforms. First, accelerated depreciation should be retained instead of being used as a base-broadening provision. Second, even though territorial tax reform is likely to have fairly modest growth effects, repealing deferral could lead to significant losses in output to the extent it adversely affects the competitiveness of U.S. corporations.

There is a strong case for tax reform. Total revenues are projected to increase from 17.6 percent to 19.4 percent by 2039. The Federal debt is projected to increase from 74 percent to 106 percent of GDP over that same period. Whether revenue as a share of GDP

remains at the projected level or is increased as part of a larger fiscal reform, it is imperative that the U.S. reform its tax system to reduce economic distortions, otherwise the combinations of a rising share of taxes as a percentage of GDP and a relatively distortionary tax system could significantly hamper economic growth.

The last major reform was in 1986. Since that time, however, many countries have reformed their tax structures. As a result, the U.S. now has the highest statutory corporate tax rate in the industrialized world.

Proponents of corporate reform argue that high tax rates discourage investment and capital accumulation and, thus, reduce productivity and economic growth. In addition, the combination of a high statutory tax rate, coupled with a wide variety of tax preferences, distorts the allocation of investment across asset types and industries and reduces the productivity of the Nation's assets. It also exacerbates the many efficiencies of the corporate income tax, including distortions of business decisions regarding the method of finance and organizational form.

There is also widespread discontent with the individual income tax system. High individual income tax rates coupled with widespread tax preferences distort decisions regarding labor supply, saving, and consumption. They also significantly complicate tax administration and compliance, and encourage avoidance and evasion.

These developments have not gone unnoticed, as numerous proposals for tax reforms have been put forward. These proposals range from base-broadening, rate-reducing reforms to various consumption-based reforms.

Studies by the OECD, Alan Viard and myself, and the Joint Committee on Taxation show that corporate taxes are most harmful to economic growth, followed by individual income taxes. Proposals to increase personal exemptions and deductions are likely to reduce economic growth. Thus, policymakers should adopt a tax system characterized by low capital and labor income tax rates and minimal tax expenditures. A sweeping reform of the tax system is well overdue. While there are many proposals that are worthy of consideration, we must ultimately choose just one.

It is my view that macroeconomic analysis can play a key role in offering guidance in that process.

Thank you.

The CHAIRMAN. Thank you, Dr. Diamond.

[The prepared statement of Dr. Diamond appears in the appendix.]

The CHAIRMAN. Dr. Tyson, it is good to welcome you back.

STATEMENT OF LAURA D'ANDREA TYSON, Ph.D., PROFESSOR OF BUSINESS ADMINISTRATION AND ECONOMICS AND DIRECTOR, INSTITUTE FOR BUSINESS AND SOCIAL IMPACT, HAAS SCHOOL OF BUSINESS, UNIVERSITY OF CALIFORNIA, BERKELEY, CA

Dr. TYSON. Thank you very much. It is a pleasure to be here. Thank you very much, Senator Hatch. And thank you, Ranking Member Wyden and other members of the committee.

I am happy to be here to talk about tax reform, growth, and efficiency. As you heard, I am Laura Tyson, and I am a professor of business and economics. The views in the testimony are my own. It was not mentioned that I do serve as one of two economic advisors to the Alliance for Competitive Taxation, which is a coalition of American companies that favor comprehensive corporate tax reform.

I feel it is important to note for the record that my views here today are my own and also to point out that, as far as the coalition is concerned, we do also have Doug Holtz-Eakin, who is also serving as an economic advisor. So we give bipartisan economic advice.

My written remarks and my oral remarks focus on corporate tax reform, but many of the points have already been made by Dr. Diamond and by both Senators, so I will try to keep my remarks brief and also to note that, although it is not in my written testimony, I certainly do support using the tax system to support childcare, education, and savings. Consumption-based taxes have been mentioned by the previous speakers, but not mentioned is the possibility of using a particular consumption-based approach, which is a carbon tax. I know when Senator Bradley was here last time, he talked about a way to shift the tax burden away from things we do not want to tax, like labor, to things we do want to tax, like carbon. So that is something we might discuss as well.

As far as my views on corporate tax reform go, first of all, as has been noted, the main argument here is that we need a significant reduction in our corporate income tax rate. It is entirely out of line with rates around the world. Other countries have been slashing their rates over the past 30 years while we have kept our rate constant. Countries around the world use these reductions in rates to make their place, their location, an attractive location for investment by their companies and by foreign companies.

Capital has become increasingly mobile. When we set the corporate tax rate in 1986, capital was much less mobile. Most of the investment was in tangible assets, not intangible assets, and most U.S. multinational companies did not face a lot of competitors from around the world.

All that has changed. So the growing gap between the U.S. rate and the rates in the rest of the world has implications for the competitiveness of the U.S. as a place to do business, and the competitiveness of U.S. companies. So I think the pro-growth and pro-investment rationale for a significant reduction in the corporate tax rate is absolutely very clear.

It is also clear that we should go as far as we can toward paying for a corporate tax rate reduction by getting rid of the many preferences, credits, loopholes, and special treatments that riddle our corporate tax system and create distortions that affect economic growth and efficiency. I think there is widespread agreement about that. However, as we broaden the base to pay for a reduction in the corporate tax rate, we have to be mindful of the fact that there are some deductions—and John mentioned one of them: accelerated depreciation—which economists believe actually enhance new investments.

So we have to be very careful how we broaden the base so as not to discourage the very investment we want to encourage by a lower corporate rate.

The final issue that I think there is agreement on, but disagreement about how best to do it, is how to tax the foreign earnings of U.S. multinational companies. I have a lot of evidence in my written testimony to the effect that U.S. multinational companies are a major source of jobs, productivity growth, investment, and R&D in the United States. They are highly disadvantaged in the current system by the high corporate rate and by the U.S. effort to tax their worldwide income.

They have used every single possible mechanism that exists in the current code, including deferral, to address the competitive disadvantages that come from the high U.S. rate and the worldwide U.S. corporate tax system. It is now time, though, to change that. My own proposal is based on the notion that we have to move to a territorial tax system consistent with the practices of our major competitor countries, where the major competitors of U.S. multinationals reside.

We can adopt strict, tough, anti-abuse measures. All of the other developed countries with territorial systems have done that. They have not moved to a worldwide system. They have dealt with profit shifting and income shifting and those kinds of concerns by anti-abuse measures, and we should follow their lead, and we should work with them in the OECD to develop multilateral anti-abuse mechanisms.

Finally, let me say in passing something I think illustrates the different directions that the U.S. might go in from the rest of the world, with negative results. The rest of the world—look at Europe right now, where almost half of the income of U.S. multinationals comes from. Europe is aggressively moving toward patent boxes to even lower corporate rates, preferential rates—5 percent, 6 percent, 10 percent—on tangible assets and intangible income. They are trying to attract the real economic activity—the R&D, the intangible assets, and the income stream—from U.S. multinationals by offering them very preferential rates.

What are we doing? Well, the Obama administration—and I support almost all of their tax proposals, but the one that I have reservations about is the proposal to impose a minimum tax on the foreign earnings of U.S. multinational companies.

So, as the rest of the world is saying, “Here is a preferential rate, come,” companies from other countries will be able to come. But U.S.-based companies will not, because we will subject them to a minimum tax, which means they will not be able to take advantage of the patent boxes offered elsewhere.

So we have the rest of the world pursuing what I would call a carrot approach to attracting the activities and income of U.S. corporations, while we adopt a stick approach that imposes a minimum tax on their earnings around the world. To safeguard their domestic tax base, other countries are lowering their corporate tax rates, maintaining territorial tax systems, and adopting anti-abuse procedures which are serious and adequate. And I think we can do that, and I think we should do that.

Thank you very much.

The CHAIRMAN. Thank you, Doctor.

[The prepared statement of Dr. Tyson appears in the appendix.]

The CHAIRMAN. Dr. Gravelle, we will take your testimony now.

STATEMENT OF JANE G. GRAVELLE, Ph.D., SENIOR SPECIALIST IN ECONOMIC POLICY, CONGRESSIONAL RESEARCH SERVICE, LIBRARY OF CONGRESS, WASHINGTON, DC

Dr. GRAVELLE. Thank you very much for inviting me.

Economists actually distinguish between efficiency effects, which are the cost of distortions, and growth effects, the increase or decrease in, say, labor or capital due to tax changes. For example, if a marginal rate cut increases labor supply, the growth effect is the value of increased output, but the efficiency gained is increased income minus the loss in the value of leisure or unpaid work, such as childcare.

Some efficiency gains might not increase output at all or would have a negligible effect, such as the substitution of one type of capital investment or consumption item for another, but they nevertheless increase well-being.

Some estimates place the total efficiency cost of the income tax system at around 2.5 percent of GDP. This is comparing to a head tax or a lump sum tax. So we could only gain part of that through income tax reform.

To me, the most likely area where efficiency gains could be achieved in tax reform is in reducing the differences in the effective tax rates of different types of investments. The returns on owner-occupied housing and corporate debt-financed investment are taxed at negligible or even negative rates, while corporate equity is taxed at 35 percent. Within business assets, equipment is favored over structures because of more generous depreciation. Some industries are favored over others because of the production activities deduction.

While there are many considerations in designing tax reform—and, of course, CRS never recommends any actual reform—some changes that would narrow these differentials are: disallowing a portion of corporate interest deductions, slowing depreciation for equipment, repealing or narrowing the production activities deduction, and limiting the benefit of itemized deductions for mortgage interest and property tax, while using some of these revenues to reduce the corporate tax rate.

The largest corporate tax expenditure now is the deferral of tax on income earned abroad. That may have some efficiency effects, but they are small because the effective tax rates—effective tax rates—in different countries are actually quite similar. So the main effect of deferral appears to be a fairly significant revenue loss due to profit shifting.

I just looked at some data on the Cayman Islands, and multinational profits in the Cayman Islands in 2010 were 2,000 percent of GDP. Significant efficiency gains from changing the distortions in labor supply, the choice between consumption and leisure or savings, are unlikely to be achieved.

Turning to growth or output effects, the effects of a tax reform on economic growth depend on whether the tax reform is revenue-

neutral, especially in the longer run, or either raises or loses revenue.

Three types of effects may influence the output effect of a tax change: the short-run demand-side stimulus or contractionary effect; the crowding out or, in effect, whether the increase or decrease in the deficit reduces or increases funds available for investment; and supply-side effects, where labor supply and savings respond to tax rates.

The demand stimulus from a tax cut is transitory. The crowding in or out effect happens gradually over time, but it grows continually. Supply-side effects are typically due to labor supply in the budget horizon as capital takes some time to accumulate or decline, unless investment flows in or out from abroad.

As illustrated in a study by the Joint Committee on Taxation in 2005, a tax cut may increase output in the short run, but ultimately the crowding out of private investment from the revenue loss, which grows continually, will decrease output in the long run.

As also illustrated in the JCT study of former Ways and Means Chairman Camp's tax reform proposal, using their in-house model, the output effect of tax reform is likely to be small on the budget horizon. No long-run estimates were provided, but it is likely that the Camp proposal loses significant revenue in the long run and would eventually cause a reduction in output through crowding out.

It should not be surprising that a revenue-neutral tax reform is unlikely to have a significant effect on output, given the necessity of base-broadening, which also affects marginal effective tax rates.

Alan Auerbach and Joel Slemrod, two very prominent economists, for example, found that the Tax Reform Act of 1986, a widely hailed tax reform, left growth effects roughly unchanged.

It is difficult to design such a reform, especially if the reform is also pursuing other goals such as distributional neutrality and simplicity. However, tax reform can nevertheless achieve efficiency gains, and it can achieve simplicity.

Thank you.

[The prepared statement of Dr. Gravelle appears in the appendix.]

The CHAIRMAN. Thanks to all four of you. This has been extremely interesting to me, and I appreciate the effort you put into your comments to appear before this committee.

Let me just ask, Dr. Boskin and Dr. Diamond, both of you are well-aware that the United States has a classical system of taxing corporate income; that is, corporate income is taxed first at the corporate level and the second time at the shareholder level when the income is distributed as a dividend.

I have two questions. First, should we integrate the corporate and shareholder level of taxes so that all business income, whether earned by a corporation or a pass-through entity, is subject to only a single level of tax?

Second, how should corporate integration be achieved if we choose to go that route?

Dr. Boskin, we will start with you.

Dr. BOSKIN. Chairman Hatch, I totally agree that we ought to integrate, if we can. We can do that in a variety of ways, but on the

personal side by reducing or minimizing the personal tax on corporate distributions. On the corporate side, some have proposed even junking the corporate tax. That I believe would decrease the taxes on foreigners holding U.S. assets, so perhaps that is not a perfect solution.

So I think that basically what I would do is, in lieu of that, if that was the approach, my view from the corporate side is, I would attribute the corporate income and the taxes paid by the corporation to the individuals who held the corporation.

Those are the two conceptual ways. There are many details that I would be happy to work with staff on at some point. I am sure others here would too. But those are the two ways. But I think this is a very, very high priority. Corporate source income is the most heavily taxed income in our society.

Dr. DIAMOND. I agree with Dr. Boskin. My one concern would be on international issues. So integration obviously would decrease distortions and equalize the treatment of debt and equity. It would equalize the treatment across organizational form and how corporations distribute dividends or dividends versus share repurchases.

But there are international issues that we would still have to deal with, and I think those are important to consider. I would also toss out there another method not related to this—not related, but close—which is something like an allowance for corporate equity that would achieve many of the same goals, although it has some revenue issues as far as how we pay for it.

The CHAIRMAN. Thank you. Let me ask this question for the whole panel.

Most agree that the U.S. statutory corporate tax rate is at the top relative to our international competitors, and that the U.S. effective corporate tax rate is above the international average. My question for each of the panelists is whether you agree that the U.S. corporate effective tax rate is at least above average relative to our international competitors and whether that is something that may inhibit growth in our total U.S. economy.

Dr. Boskin?

Dr. BOSKIN. Absolutely, Chairman Hatch. Absolutely. I believe that the corporate rate, when you take account of all the exemptions and deductions, is as far out of line as the statutory rate, but it is still high, particularly when you include the taxes at the personal level.

So redressing that, I believe, would be very beneficial to growth. There are kind of two growth effects conceptually. One is on capital formation and future incomes, most of which would be in higher future wages, by the way. It is important to note the primary beneficiaries would be workers.

The other is, when our tax is out of line with other countries, as Dr. Tyson and Dr. Diamond have suggested, we wind up affecting the allocation of activity between the United States and other countries. So getting that equalized or getting down to something that is not so far out of line would both bring more activity back into the United States and spur growth, and both of those things would be good for American labor.

The CHAIRMAN. Dr. Diamond?

Dr. DIAMOND. Yes. We have lost an 18-percentage-point advantage in the statutory rate since 1986, and we have lost a 6-percentage-point advantage in the marginal effective tax rate since 1986. So we are definitely less competitive now than we were in 1986.

My research and a lot of work I have been doing has been on the effect of income shifting, and that is mainly driven by the statutory tax rate. And so reducing the statutory tax rate would bring income home, and the great thing is, that could be used to reduce the rate as opposed to, say, base-broadening provisions like eliminating accelerated depreciation.

I am all for widening the tax base and getting rid of base-narrowing provisions, except in the case of accelerated depreciation.

The CHAIRMAN. Dr. Tyson?

Dr. TYSON. So I agree with both previous comments. What I would point out is that the main way in which U.S. companies have reduced their effective tax rate (and, nonetheless, we still have had a decline in our competitive position even on that number), is the deferral option in current law. Deferral has led to a significant increase in the amount of foreign earnings U.S. corporations hold abroad, and a growing share of their real economic activity has moved abroad. As their markets have moved abroad, they have built up foreign earnings, and then they have avoided the worldwide net of the U.S. corporate tax code on these earnings through deferral. That is what they do. It is completely understandable.

Those deferred earnings are not available for use in the United States. They are not available directly for investment and job creation in the United States. And they are costly to the companies themselves in terms of the suboptimal use of their balance sheets.

So deferral has been an important part of the system that we put together in 1986, but the whole system does not work anymore relative to what our competitors are doing, which is why I think we do need to move away from the deferral worldwide approach to a territorial approach.

I do think, and Dr. Gravelle mentioned it in her testimony, that there is a significant amount of profit shifting going on in the world, as well as real economic activity shifting and the income associated with that.

To get at the profit-shifting issue, it seems to me we have to look at anti-abuse provisions to deal with that, but that does not take away from the fact that we should have a much lower rate, a much broader base, and end deferral. If we end deferral with a much lower rate, I believe we will get significant repatriations of those funds over time.

Under these circumstances, the flows of foreign earnings will look much different going forward, and I think that will be beneficial to the U.S. economy.

The CHAIRMAN. Thank you. My time is up. Dr. Gravelle, if you could, keep your remarks short, but take the time you need.

Dr. GRAVELLE. I will try. I have the CRS paper for international tax rate comparisons that indicates that average effective tax rates are about the same around the world with respect to either the

OECD countries or the 15 largest countries, which include the BRIC countries: Brazil, Russia, India, China.

There are slightly higher rates for marginal tax rates, but certainly not the differential. That is why in my testimony I said I think the real distortion—there is not really much of a distortion with respect to real investment due to our tax system, but there is a big problem with profit shifting.

I also recently updated my tax haven paper which shows the enormous growth in profits of multinationals in places like Bermuda, Cayman Islands, the BVIs, showing that this is a worsening problem and has a lot of revenue potential. It is $83 billion now as a revenue loss.

But I do not think the average effective tax rates are very different.

The CHAIRMAN. Thank you.

Senator Wyden?

Senator WYDEN. Thank you very much, Mr. Chairman.

I very much appreciate this panel. We have four very distinguished scholars, and certainly you have raised critical issues. I see my friend Senator Coats there. He and I and Senator Gregg, former Senator Begich, we wrestled with all of these as part of putting together our legislation.

My concern is, if I suddenly put the four of you into one of those town meeting audiences, everybody's eyes would glaze over as we talked about these things. And the question is going to be, how are we going to find some way to jumpstart this effort in a fashion that is really going to get people's attention and make it attractive for the public to be part of? Because I think right now it is sort of seen as root canal work and just kind of an academic exercise that a handful of us get into.

So let me start with you, Dr. Gravelle, because you have thought about this. Right now, Americans are in the middle of filling out this blizzard of tax forms and wading through the rules and getting their W–2s and trying to find all their records. It is going to take them more than 6 billion hours this year to do that. It is going to cost us over $168 billion annually to comply.

One of the ways I think we can get people seriously interested in reform is just to tell them, we could get rid of this mess, we can get rid of this mess, possibly put your taxes on a postcard, certainly for an awful lot of people, particularly middle-class people, and save them time and money and get them their springtime back.

What do you think about that? Would that be, Dr. Gravelle, one way to maybe jumpstart this?

I want all of you to understand that I am very respectful of the issues that we are talking about, because they are important. I am concerned we are not going to get to those issues because the public is going to say, they are back in this discussion about all this dense stuff. What I really want to do is get rid of this mess and come up with something simple, and then I will be interested in talking to you about it.

Dr. Gravelle?

Dr. GRAVELLE. Well, I would agree. I do not think multinational profit shifting appeals to a normal taxpayer.

Senator WYDEN. You don't think? [Laughter.]

Dr. GRAVELLE. I do think, and as you know, in yours and Senator Coats's tax reform proposal, there are things we can do to the tax law to simplify it, maybe do something that would increase the standard deduction so fewer people would be itemizing. There are lots of little things that I could talk about, but I think if we go through the tax expenditures, we can see a lot of things that you could change.

So the first step would be to make the system simpler for the vast swath of ordinary people who do not have hedge funds and do not have complicated investments, to simplify their tax filing. Then I think we need to try to think of innovative ways to actually do the tax filing, to look into the possibility of a return-free system, at least for some taxpayers, to look into how electronically we can ease the sort of burden on taxpayers.

The information the taxpayer gets on the W–2s and on the 1099s, right now I think the W–2s marinate at the Social Security Administration for a while right now. But there should be a way to provide that information and maybe even have pre-filled-out forms.

We need to kind of open ourselves to nontraditional ideas, I think, in this age of incredible technology. So those two things: think of how to help people file returns, and think of how to do something to make their lives simpler while still collecting the revenue we need.

Senator WYDEN. That is helpful, and I appreciate it and all your scholarship, Dr. Gravelle.

Let me ask the other three of our distinguished panel members about one other potential lever into this discussion, and that is infrastructure funding.

What the topic has been for this hearing—I think a correct one that Chairman Hatch has selected—is growth. You cannot have big league economic growth with little league infrastructure. There are, as we all know, billions of dollars, billions of dollars, sitting on the sidelines, and I think we can get a significant portion of that into infrastructure. We heard testimony from Jay Drew of S&P last year, and he told the committee that $100 billion of private capital could be invested in U.S. infrastructure with the proper incentives.

In this room, I sort of prosecuted the cause for years for Build America Bonds. And I was sort of surprised to even be called on at the end of the Recovery Act, on the last night, and people said, "What do you think we might do with those?" I said, "Maybe we will generate a few billion dollars worth of sales," and people said, "Great, let's do it."

We generated more than $180 billion worth of sales of Build America Bonds in like a year and a half. So I would be very interested in—why don't we take this side of the panel?

The question is, what might the committee do as another lever to get people interested and communities interested in tax reform on the question of making it attractive for the private sector to invest in infrastructure?

Why don't we start with you, Dr. Tyson, and just maybe go down the row?

Dr. TYSON. First of all, I just want to say that I was a huge fan of Build America Bonds, and I am very, very sorry we did not keep them.

I am not sure, however, that infrastructure is such a compelling argument for town hall meetings. I do not know. I will leave that for you to assess.

Senator WYDEN. Well, I will tell you, when you mention infrastructure, the first thing they say is, "Why can't we get that part of the freeway fixed?"

Dr. TYSON. But I think also I would say, as an economist, and say also at town hall meetings, certainly in certain parts of the country, in much of the country now, people also worry about climate change and carbon.

I would say I would probably link to the view that there is growing bipartisan support, certainly at the State and local levels, for either a gasoline tax solution or, more broadly, a carbon tax solution, which does a couple of things. It actually goes after carbon emissions—a "bad" we want to discourage. And it creates a lot of revenue that can be used for intelligent infrastructure improvements, and over time it will add to the increasing carbon efficiency of our trandportation fleets. A carbon tax of a relatively small amount over many years would generate a lot of revenue to deal with our long-term deficit problem.

So I might go to a town hall meeting and say, yes, we need infrastructure, but how do we finance it in a sustainable way long-term? We have had a gasoline tax which did not go anyplace for years, despite what happened to the inflation rate, despite what happened to the fuel efficiency of cars, which brought the gasoline tax revenue down.

We have a Highway Trust Fund which is going to go bankrupt. We need to finance that in a sustainable way. Let us finance it by a carbon tax, which casts a broader net than a gasoline tax.

But I also want to say I think the town hall situation does make it complicated to make the argument, which I believe and I think you believe as well, that there are certain items in the individual tax code which we want to promote for middle-class families.

We want to promote childcare. We want to promote a second-earner tax credit. We want to make the Earned Income Tax Credit more generous. We want to consolidate, but amplify tax benefits for education and retirement savings.

Those are all things you really cannot do on a postcard, you really cannot do without having sufficient special individual tax provisions.

Those things, I think, are all meaningful and important to do for middle-class families. I think they work well in town halls. They move away from the simplicity argument.

Senator WYDEN. The only thing I would say, Dr. Tyson—my time has expired—on the proposal that Senator Coats and Senator Gregg and I put together which protects those middle-class breaks, the people at *Money* magazine took our form, 30 lines long, 30–31 lines long, filled it out in 45 minutes.

Dr. TYSON. Well then, perfect. You have solved that problem. I certainly believe in those kinds of reforms.

The CHAIRMAN. Senator Coats?

Senator WYDEN. Mr. Chairman, I just think we have two other distinguished panelists. Could they just comment very briefly——

The CHAIRMAN. Sure.

Senator WYDEN [continuing]. Because I am way over my time. You do not have to, but maybe you are interested on this question of how do we make it attractive to start this debate and talk about things people actually care about.

Dr. DIAMOND. I will just state briefly, I do not think I am going to invest in any economic-based reality TV shows, because, even as we try to make it attractive, we always revert to the weeds.

A few years back, I worked for the New Zealand Treasury Department on a project they had me working on, and I was impressed with the cleanness of their tax code. And I asked their treasury officials, "How did you get your tax code so clean?"

Their approach was to toss everything out and then to make people argue for why it should be in, and I think that would generate a lot of interest if we just toss everything out and say, if you want it back in, you have to make a credible cost-benefit analysis of why this provision should be in.

The CHAIRMAN. I would like to do that. [Laughter.]

Senator WYDEN. Dr. Boskin?

Dr. BOSKIN. I would strongly endorse your initial statement, Senator Wyden, that simplicity is a big part of this. There is an immense frustration with our tax system. Six billion hours is a lot of time, and I would guess 5.95 billion of those are spent in extreme frustration.

So I think that the cost is immense. I think people would be willing to sacrifice some special features for a lower rate and a great deal of simplicity.

The second thing I would try to emphasize would be transparency. I think there is a lot of suspicion that somebody else is getting a break I am not getting, and simplification is one way to get transparency, so I strongly endorse that.

On infrastructure, as I have said many times, I strongly support every infrastructure project that passes a rigorous cost-benefit test based on national criteria, not just that some local government is getting a very heavy subsidy from the Federal Government and so they will do something that may have very modest benefits nationally, but where people in Oregon and Utah are paying to finance some project in Georgia or Indiana, if I may, Senator Coats.

So I am very strongly supportive in that sense. But I do believe that we should be focusing on tax reform, primarily par tax reform. The more other issues you involve—everybody has their favorite other thing they are going to want to tag onto that. For Laura, maybe it is carbon. For somebody else, it is infrastructure. For somebody else, it is something else. And then you are back in the problem of not having sufficient leeway and room to just get rid of a lot of preferences or cap them and lower the rates considerably.

So I would say lower rates, broader base, simplification, and emphasize simplification when you are trying to get the public involved.

Senator WYDEN. The irony is, that is really what Senator Gregg and Senator Coats and I really focused on in our bipartisan bill, and that is what you have trouble kind of engaging people around.

So that is why somebody like me will ask a question like I did. But I look forward to working with you.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Coats?

Senator COATS. Thank you, Mr. Chairman.

This is a very interesting discussion here, and Senator Wyden is generous in mentioning my name along with Senator Gregg. I inherited from Senator Gregg 2½ years, I think, of intense work that he and Senator Wyden did in putting together a proposal.

We have said from the very beginning, it is not set in concrete. It is a starting basis, a platform which can provide for simplicity, provide for more fairness—things that attract people to the idea of tax reform. But another one of those issues is revenue neutrality, and I would like to ask you about that, although I should mention the fact that Senator Wyden and I are still working, as was Senator Gregg, on the whole issue of territorial taxation.

I appreciate your testimony on that, because the whole issue of deferral versus getting to a point where we have that competitiveness, all, from my standpoint, goes to the fact that also attracts people at town meetings, and that is economic growth.

So I want to switch from that into the revenue neutrality issue and get your take on what best promotes economic growth: revenue neutrality. And clearly there is an issue here relative to comprehensive tax reform and the argument over the tax increase, in many cases for additional spending, whether it be on infrastructure or whether it be on childcare or whether it be on any number of things.

The argument is made that we cannot go to revenue neutrality on this; we need to have revenue coming to the Federal Government through the tax code so that we can spend it on needed programs. The problem is, everybody has a different opinion of what those needed programs are.

But I would like to just have the panel comment, and that is really my only question, Mr. Chairman, on that whole question of revenue neutrality versus increasing taxation through any means of various reforms.

Dr. BOSKIN. Senator Coats, I would stick with revenue neutrality. I think the easiest way to lose people in town hall meetings is to say we are going to change the tax code and we are going to raise your taxes. So I think that Senator Wyden's constituents in Oregon might not be too happy about that in those town hall meetings if we are going to try to raise a bunch of revenue. That is number one.

Number two, there is the tie of the spending side of the budget to the tax side of the budget. If we run deficits and accumulate debt, that commits us to pay interest in the future, the present value of which will be equal to the deficit that we run today.

So it is deferring taxes. So we should not kid ourselves that if we are losing a lot of revenue, that is not going to cause problems later. And if we raise a bunch of revenue and then spend it, or if we commit ourselves to a spending program which requires higher taxes in the future, that will also harm growth.

So I would stick to revenue neutrality as closely as you can—I mean, these are approximations done by the people at Joint Tax and so on—as the primary vehicle for getting tax reform going.

Senator COATS. Dr. Diamond?

Dr. DIAMOND. I think revenue neutrality is an important assumption in order just to get reform passed, because if not, you will have more losers. If you are going to raise more revenue, then you are going to have more losers, and that is going to be a problem. If we are not raising enough revenue, we are going to have an increasing debt, and that is going to decrease economic growth.

So when I was at the Joint Committee in 2003, we analyzed the Bush tax reform, which reduced rates on capital income but did not finance it. And the positive effects of the Bush tax cuts were seen in the window, and then we did actually report some results showing that increasing deficits were tending to offset those effects, and in the long run they would have completely offset had there been no change in spending.

So I think revenue neutrality is important. I also think it is important to think about revenue neutrality in a long-run sense.

I can give you two examples of two different tax reforms. We could have a tax reform that raises capital gains and dividend rates and increases, say, the Child Tax Credit versus a tax reform that reduces capital gains revenues and decreases the Child Tax Credit.

One of those is going to—and let us say they increase it by the same amount. They are both $300 billion. So in a static basis, they would be revenue-neutral. But the increase in the rates and the increase in the child credit is going to reduce GDP and in the long run lose revenues, where the decrease in the gains rate and the decrease in child credits would actually raise revenue in the long run.

I think it is important that we recognize that different proposals have different macroeconomic effects which affect long-run neutrality.

Senator COATS. Thank you.

Dr. Tyson?

Dr. TYSON. This is a complicated issue. I will say I raised the concern I have about revenue neutrality when I talked about corporate tax reform, because we are not only talking about revenue neutrality overall, but we are also talking about revenue neutrality within pieces, like, corporate tax reform should be revenue-neutral or business reform should be revenue-neutral.

Actually, a lot of what we have been discussing here would suggest that revenue neutrality in corporate tax reform might not be right, because, if you think a major flaw in the current system is the high taxation of capital income, you might actually want to reduce that. In which case you would not want to offset a cut in the corporate tax rate by base-broadening that increases the taxation of capital income in other ways. So I do think we have to be careful of what we mean by revenue neutrality.

I think we have a distorted tax code, in part, because—over all the years I have been involved in public policy—when we cannot come to an agreement on spending on something which people in the town hall might want, instead we introduce a tax credit. We can come to an agreement on that, and so we pass that.

So a lot of things that are tax credits are there because there is a sense we should be doing something to deal with childcare or deal with education or deal with community colleges, but we cannot get an agreement on the spending, so we agree on the tax credit.

So I do think that in going after lower tax rates and revenue neutrality, if that is the goal, we have to recognize that we may, in order to do that, have to increase spending on some things that we currently support through tax credits and that we want to continue to promote. Revenue neutrality in corporate tax reform can be a dangerous goal. I would much rather have us look at individual corporate tax provisions and try to assess their effect on growth and efficiency rather than hamstring the whole process with an overall constraint of revenue neutrality.

However, as I think one of my colleagues mentioned, that just may be the political hamstring that you have to deal with, in which case one has to recognize that revenue neutrality does not mean that there will not be winners and losers. And in this struggle for what kind of tax reform we should have, we need to think about that from the point of view of what people in the town hall would want, and we also have to think about that in terms of, say, what should be our corporate tax code as a long-run contributor to U.S. economic growth?

Senator COATS. Dr. Gravelle?

Dr. GRAVELLE. Well, I do not envy your position. I do think that revenue neutrality makes it easier to design and sell tax reform. I think that is what they did in 1986.

However, we are also clearly in an unsustainable debt position, and it is basically due to the growth of, not the discretionary spending or defense, it is mostly due to the growth in things like Medicare and Social Security, and that is going to have to be dealt with.

I read the CBO paper on the long-run budget outlook, and it looks to me as if it would be very difficult to solve that debt problem solely on the spending side. Unless we are willing to make cuts in Social Security and cuts in Medicare, that would just be very, very difficult to do.

I think along the way you could think about some of the types of taxes that Laura has talked about: a gasoline tax, maybe a carbon tax. But somewhere down the road that difficult decision is going to have to be made as to what kinds of taxes are probably going to have to be increased.

But maybe in the short run, revenue neutrality is a way to frame and control whatever you are doing. So I could go either way. I could say you might want to use tax reform to try to raise revenue, if you can. Sooner or later, you are going to probably have to deal with it.

Senator COATS. Thank you. My time is up. I would just comment and say I agree with Dr. Boskin's point that we need to, in tandem, address the runaway entitlement spending along with comprehensive tax reform, because those two elements, at a minimum, I think are necessary to be addressed.

Unfortunately, we have had several attempts at that, as you know, over the past 3 or 4 years, all coming up short. But I think the reality is that putting those two together is going to be very

important to get us on the right balance in terms of dealing with the future. Otherwise, if you just do one or the other, it is going to be a significant distortion.

Mr. Chairman, thank you for the extra time.

The CHAIRMAN. All right. Now, I am going to have to ask people to keep their questions and responses within the 5-minute rule. We have been going over, and it is starting to irritate some of our colleagues. So if we could do that, I would be very appreciative. You just cannot ask a question to the whole group—and all of us have been guilty of this—at the end of 5 minutes and it takes 10 minutes instead of 5, because it is not fair to the other folks.

But I hesitate to hold others to that account since we have been so bad so far, and I do not blame anybody. And this is such an interesting panel, it is very difficult to do these things within a 5-minute thing.

So I am going to try to be liberal. Senator Casey, we will call on you first. We will see if you can live within the constraints.

Senator CASEY. Mr. Chairman, I will comply as best I can. Thank you very much.

I want to thank the panel. I know I missed much of the testimony. So I am grateful to have the chance to get maybe two questions in, one on poverty and one on tax rates.

Dr. Tyson, I will start with you and, in particular, in addition to your testimony, your op-ed in the *New York Times* of March 7th of last year, 2014, where you said, and I am quoting, "The biggest and most successful of the Federal Government's antipoverty programs next to Social Security, reducing the 2012 poverty rate by 3 percentage points and the poverty rate for children by 6.7 percentage points," are the two that you have addressed, meaning the Earned Income Tax Credit and the Child Tax Credit.

So the question is, in light of that assertion—which I am glad you made, and I am glad that we will keep making—even though both have bipartisan support, in light of the points you made and in light of the bipartisan support for both of them encouraging labor force participation and allowing lower- and moderate-income taxpayers to contribute to the economy, as we consider tax reform, how important do you think it is to both, I would argue, enhance, but at least maintain both of these poverty-reducing strategies?

Dr. TYSON. I am one of the people who always runs over. So I am going to be brief here.

I said in my opening remarks, although my written testimony focused on corporate tax, which I thought was the topic of the day, that I absolutely support such measures, as I did when I wrote my 2014 *NYT* column, and I support proposals to enhance them and amplify them.

For example, the Earned Income Tax Credit for single workers, the childcare credit for families, the second earner credit, taking away some of the tax disincentives of having a second earner, I think these are very, very important antipoverty devices, along with, of course, what has been embraced around the country, but not yet in Washington, and that is an increase in the minimum wage.

Senator CASEY. I would agree, but thank you for highlighting that.

Dr. Gravelle, I wanted to move to another topic, which is the tax rates. You have studied, as others here today have, I know, the effective tax rates in the United States that our businesses pay depending on the type of activities they engage in. In particular, the study that you have shows—and others have indicated as well—that our marginal effective tax rate on purchases of business structures or equipment is much lower than the statutory rate—an important point to make.

But I wanted to ask you, when we consider a whole range of tax reform ideas, what would you hope that we would do to ensure that corporate tax reform is broadly neutral in its impact on both different industries and businesses?

Dr. GRAVELLE. The single biggest distortion that I found is the distortion between debt and equity. So there is a huge difference between debt and equity investments, made worse when you have inflation, because you deduct a nominal rate but only tax a real return, or less than a real return if you have accelerated depreciation.

I believe the Wyden-Coats bill does an adjustment for inflation for interest, but that would be sort of the first thing I would look at.

The second would be—again, CRS is not recommending any of this. So these are just ways you can reduce distortions. Secondly, there is a smaller distortion between business equipment and structures. It kind of happened by accident because inflation fell. We had it right in 1986 pretty much, but those differentials arose because we do not have an inflation-indexed system. So that system was right for a 5-percent inflation, but too generous for a 2-percent inflation.

Also, the third thing is the production activities deduction. I think I testified earlier before this committee that if you did not want to give it up entirely, you could confine it to corporate manufacturing or you could repeal it entirely. But it favors certain kinds of industries over others, and it is very complicated to deal with.

So those are the main things. I noticed that there was a capitalization of advertising expensing in Chairman Camp's bill. I think that is worth taking a look at it.

I am not sure capitalizing R&D is that good an idea, because R&D has these very large spillover benefits. So those are the main things that I think you would want to look at to even out the tax rate.

Senator CASEY. Well, now that I am 22 seconds over, Dr. Diamond and Dr. Boskin, I will submit a question for the record, if you could answer in writing, and Dr. Tyson as well, on capital-intensive industries we are concerned about—our manufacturers—and the impact of tax reform.

Mr. Chairman, I came close.

The CHAIRMAN. You did.

Senator CASEY. Thank you.

The CHAIRMAN. I appreciate it. Senator Isakson?

Senator ISAKSON. Let the record reflect I was not the one complaining about that, Mr. Chairman. Senator Casey did a great job.

With Dr. Tyson here, I was reading Dr. Tyson's resume, and it reminded me of 1983 when I went to the London Business School,

where you were the dean, I believe, in 2000. Great school; I learned a lot.

But it reminded me in this conversation that 1983 was the year Ronald Reagan pushed out eligibility for Social Security because Social Security was going under, and 3 years later is when he simplified the tax code and the number of marginal rates went from 11 to 3.

Maybe it is time—listening to Senator Coats's questions and your responses—we ought to revisit those two principles of reforming entitlements and simplifying the code. Would you agree with that?

Dr. TYSON. I certainly think we should look at both of those things. I think we absolutely agree here. There are a lot of distortions that can be adjusted.

I will also talk about a distortion for a minute in terms of targeting, just targeting. Imagine—we have done a lot in our society to encourage retirement savings. This is an example. We want to encourage retirement saving. But if you look at what we have done, 80 percent of that tax expenditure goes to the top 20 percent of the income distribution, and the top 20 percent of the income distribution are pretty high savers.

The problem is that 60 percent of the workers in the United States are basically saving inadequately. So one of the ways you can deal with this is through simplification. You can simplify, and you can also better target what you want to target.

As far as our Social Security and Medicare systems, I would say, yes, we have to continue to look at them. I would point out that right now our long-run budget outlook looks vastly improved because of the slowdown in health care spending that has occurred following the enactment of the Affordable Care Act.

So I do not think we know what those lines are going to look like. We know what the Social Security line is going to look like, and there are numerous proposals from commissions going back as far as the 1980s to deal with that issue.

I would detach Social Security and health, and I would follow the trends in both. And there are a large number of things we could do in each area.

It is a long-winded way of saying, "Yes, we need to look at both."

Senator ISAKSON. To be shorter-winded, let me make one other acknowledgment. I went to the University of Georgia, and I am so proud Dr. Gravelle is a double dog, two degrees from the University of Georgia. Congratulations.

Dr. Boskin, in your testimony, you favored a consumption tax, and you referred to a consumed income tax, if I am correct. Is that right?

Dr. BOSKIN. Yes.

Senator ISAKSON. Is that a sales tax?

Dr. BOSKIN. A sales tax or a value-added tax are ways to tax consumption, but I prefer doing it through the income tax. Income is your consumption plus your saving. So if we had a broad, simplified saving deduction in the income tax, you would be taxing that part of the income which was consumed, and you could then have all the flexibility of dealing with personal circumstances that the income tax allows.

I personally would only favor moving more toward the transaction side of consumption tax if it was to replace existing taxes. Just adding it onto the existing taxes I think would be a bad idea. That is how Europe grew to be a much bigger-government, stagnant, slow-growth part of the world.

Senator ISAKSON. The so-called fair tax, which has been proposed—I am sure you have probably read the book——

Dr. BOSKIN. Yes, sure.

Senator ISAKSON [continuing]. Does exactly that. It repeals the payroll tax, the inheritance tax, and the income tax and replaces it with a sales tax, which, I might point out, Mr. Chairman, does answer the one question nobody else could answer, and that is how you change the tax code at a town hall meeting.

The one subject that you can bring up at a town hall meeting is the fair tax. When you use that terminology and you talk about spreading the load and doing it on consumption, it is extremely popular.

But my question for you, Dr. Boskin—you also mentioned the difficulties in the transition, and that is what happened with the 1986 Tax Act. When passive loss was offset, offsetting earned income was taken away, and it really tanked a number of businesses.

Have you looked at a good transition from where we are to a simpler tax?

Dr. BOSKIN. Yes. And there are several models for that that have been worked out by people who have thought very deeply about this, including people who are prominent academics but spent part of their life in the Treasury.

So there are roadmaps, but I do want to emphasize that they are not simpler. We will get to a simpler tax, but in the interim, you have the new tax plus the transition rules, which themselves are complicated.

I would also add, in your comment about entitlements, that you are exactly right. First of all, the slowed down health care spending started early in the previous decade, way before the recession and the health care law. There is a big debate among health economists whether that will continue or whether it will turn back up. Most think it will turn back up.

The other big trend in this period is the slowdown in productivity. We would need both productivity to rebound and health care spending to stay slowly growing for the long-run entitlement problem to be substantially reduced.

I think it is unlikely that both of those things will occur, and, therefore, you are quite correct. Entitlement reform is tax reform, because otherwise taxes will have to go up to pay for all this.

I would also add, relative to something that was said before, you do not have to cut anything. You have to slow its growth and do that in a way that compounds gradually over a long span of time so people 30, 40, 50 years from now will get less than they would have gotten if the current benefits changed, but probably more than people in like circumstances are getting now.

Senator ISAKSON. Thanks to all the panelists. I appreciate your time and interest.

The CHAIRMAN. Thank you, Senator.

Senator Thune?

Senator THUNE. Thank you, Mr. Chairman. Thanks to you and Senator Wyden for having this hearing.

In my view, robust economic growth is the primary reason for tax reform, and no matter the challenge facing our Nation, it strikes me that whether we are talking about stagnant wages or lack of economic mobility or the looming entitlement crisis, that faster, long-term growth is without question a vital part of the solution. So I look forward to a tax reform that recognizes that a more efficient and less distortive tax system is critical to American economic well-being going forward.

I want to ask a question perhaps, Mr. Boskin, that you could speak to. That is, the norm when we talk about the high U.S. corporate tax code is, we think about its negative effect on businesses. But the truth is that a high corporate tax rate also hurts workers, particularly in a global economy where capital is mobile.

There was a study in 2009 by the Congressional Budget Office that found that labor bears 70 percent of the corporate tax burden in an open economy. So, having said that, in your view, what would a reduction in the corporate tax rate mean for American workers in the global economy and, specifically, would it result in lower or higher wages over time? Your opinion.

Dr. BOSKIN. Senator Thune, you are exactly right. It would result in higher wages, because it would increase productivity by increasing investment.

It all depends also on what else was done, obviously, and what the depreciation allowance is. I favor retaining strong capital cost recovery provisions with limits for excessive debt, and so on. But undoubtedly the biggest winners would be American workers—more jobs, higher wages, absolutely.

Senator THUNE. This I would direct to any of you. There is a debate that goes on among economists between those who believe that a lower rate is the key component for growth and those who focus more on cost recovery.

Maybe you have already batted this around a little bit today, but I am wondering where each of you falls on that question. Should the focus as we go through this exercise be lower rates, even if depreciable lives are extended to achieve the lower rates, or should we keep a focus on cost recovery?

Dr. DIAMOND. The standard economic story is that when you lower the rate, you give a windfall gain to existing capital assets. That is a windfall gain that is not given—that is lost revenue that could be used to lower the rate further if you targeted your incentive just to new investments. So generally, an investment incentive is seen as more efficient than just pure rate reduction.

Some work I have been doing has looked at one more piece of that puzzle, which is that rate reduction tends to have another positive benefit in that it brings income home from abroad due to reduced income shifting.

There are lots of uncertainties about the size and the amount of income. So the initial size of income shifted abroad, as well as how much income would return home when we lower the rate, and how large of a rate decrease you need to get a significant amount of income home, those three issues should be considered together, in my view, given the globalization of the economy over the last 20 years.

Senator THUNE. Dr. Tyson?

Dr. TYSON. I agree with that. I just want to emphasize, on the isue of how much money might come back, that we need to distinguish here between money that is already out there and future flows.

If we do not get this right, what we are doing as the world continues to change around us is—and I mentioned patent boxes in my conversation at the beginning—we are continuing to make it less and less attractive for these activities and assets to remain in the United States.

So if you are an entrepreneur, an innovator, starting something new and thinking about where are you going to incorporate, where are your real markets? Your real markets may be 60 percent outside the United States, 70 percent outside the United States, and 30 percent here. The tax disadvantages of a very high statutory rate and a non-territorial system, perhaps with a minimum tax attached to that, are basically an incentive not to incorporate in the U.S. and to shift future flows of foreign earnings abroad.

I think we have to distinguish those flows, which I worry a lot about because, again, the U.S. companies are competing around the world with companies that have very different tax homes, and those tax homes are increasingly more attractive than the U.S. tax home.

That is part of the reason why we saw the wave of inversions that we have seen. You could imagine that also leads, if we do not adjust this, to more and more future foreign acquisitions of U.S. companies. I worry about the flows two ways: the deferral flows, taking the money back that is out there, and future flows.

Senator THUNE. Very quickly. C corps, pass-throughs, business income, should it be taxed the same? If we do this, do we need to deal with the pass-through issue at the same time we deal with the corporate tax rate?

Dr. GRAVELLE. Well, I do not see how you could deal with corporate tax reform without dealing with pass-throughs, because any base-broadening things you do would affect them as well.

There is a proposal the administration has made to tax large pass-throughs like LLCs—and it just appeared recently because they were allowed by State law, and they really act like corporations, those big ones, those pass-throughs—and also possibly maintain some cash flow accounting or something like that for smaller businesses.

But I wanted to mention your earlier question about accelerated depreciation versus corporate rates. You have a tradeoff, as usual. If you want to equalize the tax on different kinds of assets, then you need to do something about accelerated depreciation for equipment or lower it for everything else, however you want to do it.

But it is true what John said, in general. If you do it—and I have talked about this before the committee—if you trade revenue rate cuts for accelerated depreciation on a revenue-neutral basis, you raise the cost of capital because you get this windfall.

So it is just something you are stuck with. You have to decide which is more important.

Senator THUNE. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Scott?

Senator SCOTT. Thank you, Mr. Chairman.

Dr. Tyson, I would like to continue on that stream of consciousness and perhaps amplify it from the South Carolina perspective.

If you look at South Carolina, we are the home to some really amazing corporations. We have companies that are headquartered in America doing business in South Carolina, such as General Electric. We have other companies, like Michelin, that are headquartered elsewhere in the world, and the treatment of their profits is very important in the conversation you were just having with the Senator a few minutes ago. With our current tax code, that means that a lot of those profits are going to be locked out due to the 35-percent tax rate that would have been paid on profits.

When you look at the reality of our tax code at 35 percent, if you bring home overseas profits, you are taxed again. If you are Michelin, you bring those profits home and you have a 95-percent exemption.

When you look at the President's proposal of a 14-percent tax wherever profit is made in the world—you are going to tax it and then we are going to go to a normalized 19-percent rate—the fact of the matter is that this is not only anticompetitive, this is a game-changing experience on behalf of corporations that would then be participating in a global economy without the ability to compete.

Is that the sense that you have as well, or is it not that frustrating to you? Your hands are beating over there and you do not have a drum set, so I assume that you have a——

Dr. TYSON. I want to distinguish between—I did not talk in either my written testimony or my comments so far about the 14-percent rate which is on the stock of deferred earnings that are outside the United States. This gets to the issue really of the transition. If we are going to transition to another system of a lower rate, that is going to encourage future repatriations to come back. One way to finance the lower rate is to deal with some transition tax on those deferred balances, and that was part of Chairman Camp's proposal. It has been part of the Obama administration's proposal, although the Obama administration proposal then goes in a different direction thereafter.

So the first thing is, we need—I assume that in any corporate tax reform, there is going to be some transition tax on those balances. There is a question about the magnitude, and there is a question about how that revenue should be used. Possibly it should be ploughed back into financing the corporate tax reform.

Senator SCOTT. To lower the rate.

Dr. TYSON. Right. So that is one way to do it. As far as the 19 percent, there is a lot of discussion of that in my testimony, and, since I am limited in time, I will not go through it other than to say that, effectively speaking, what that does is, country-by-country in every year, the minimum effective tax rate that a U.S. company has to pay is 22.4 percent, and that is at a time when a lot of the countries in which it is operating are bringing down their effective tax rate through patent boxes and things like that, which will make it easier for the Michelins of the world to compete for those patent boxes and much harder for the U.S. companies to compete for them.

Senator SCOTT. Yes. Thank you, ma'am.

Dr. Boskin, in the context of the graying of America's baby boomers and the disappearing of defined benefit retirement plans, it seems to me that labor force participation should be rising, not falling, as we have seen.

Even for individuals 55 years and older, the labor force participation rate has been relatively flat since the crisis after rising pretty steadily throughout the 1990s. As we view our revenue stream, how should we consider the effects of demographic shifts in labor force participation on the long-term health of our government and, hence, our economy? Where is the place for tax reform in this conversation?

I have spent some time just thinking through where we are, where we are going, and what that means from an economic standpoint, with fewer people being able to rely on a specific dollar amount coming into the household every month and now having a lump sum that they are going to have to figure out how to manage.

It seems like we should have an uptick in labor force participation and not really a steady decline.

Dr. BOSKIN. Senator Scott, I think you are onto something very important. In the short run, when labor force participation has plummeted, about half of that, maybe a third to half of it is due to the baby boomers retiring and the people entering the labor force being a relatively smaller cohort because of lower fertility behind them.

But a large fraction of it has to do with a variety of incentives that have been created for people to leave the labor force or to support them if they do. Some of these were temporary things in the midst of the Great Recession when needs were exigent, and they have not been scaled back. There is a lot of evidence that a sizeable part of the decline has been because of the increase of various types of transfer payment programs.

So we need to better balance those programs being there for people who need them and then to phase them down so that people have more of an incentive to search and reenter the labor market.

In the long run, we are going from around three workers per retiree to two, a 50-percent decrease—much less than some of our European competitors, but that is still going to be an immense burden, and it is a big part of why the entitlement cost crisis is likely to lead to intense pressures both on the budget, therefore on taxes, but also on private family situations.

So all that suggests we ought to make sure we retain, simplify, maybe even enhance our saving incentives from the tax code so people can save for their own retirement, number one; and, number two, we need to make sure that we do not have tax rates any higher than they need to be.

Let me emphasize that we need to have sufficient revenue to fund the necessary functions of government, but with more effective targeting of our spending. That will help. But keeping the tax rates as low as possible on the broadest possible base would help as well.

Senator SCOTT. Thank you, Mr. Chairman. Just one final comment, if you would allow, sir. I think perhaps when we evaluate the labor participation rate and how it has gone from 65 percent

to 62 and its impact on us celebrating a 5.7-percent unemployment rate, in fact, the real challenge for us is the revenue stream that is no longer coming in. And I would also suggest that, while this is certainly a tax reform conversation, the larger looming challenge from an entitlement conversation needs to be woven into the picture that we have in defining the health or the lack thereof in our economy.

Dr. BOSKIN. Absolutely, Senator Scott. The headline unemployment rate, the decline, is overstating the improvement in the economy some, because so many people are still out of the labor force.

It is not just the revenue we need. We need more robust growth to pull those people back in and give them jobs and opportunity and income.

Senator SCOTT. Thank you, sir. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Portman?

Senator PORTMAN. Thank you, Mr. Chairman.

To go back just to the beginning of the recession and take the labor force participation rate then, I think the unemployment rate was about 10 percent, and at the beginning of the administration, high 9s. So those unemployment numbers are clearly unacceptable, and that is why we need tax reform, because it is one thing that can actually give the economy a shot in the arm.

I found your testimony really compelling. I was here earlier to get to hear all of you. And I think this is an urgent issue, not just an important issue, and I am really glad you are here, and I am glad the chairman and the ranking member not just wanted to have this hearing, but are willing to push forward on this issue.

They both said the same thing at the beginning, which is that this is an area where we can actually make progress on a bipartisan basis. And it is urgent for our workforce, for American workers, and for their ability to have rising salaries. We have to have a more competitive code.

So let me just, if I could, Mr. Chairman, put something in the record. This was in the *Wall Street Journal* yesterday. This says the "Valeant-Salix Deal Shows Why Inverted Companies Will Keep Winning." Amazing story.

The CHAIRMAN. Without objection, we will put it in the record.

[The article appears in the appendix on p. 77.]

Senator PORTMAN. It says that Valeant just bought Salix for $10 billion. It says it is a clear sign that inverted companies have a clear edge in deal-making. Actually, it is not. It is a clear sign that all foreign-owned businesses have a clear advantage.

Let me just tell you, Valeant inverted back in 2010. They are now Canadian-domiciled. Salix tried to follow suit last year. They wanted to go to Italy. That deal fell apart after Treasury cracked down on these so-called inversions. And now Salix is being purchased by Valeant. So there it is.

Here is what is even more interesting to me. All but one of the bidders for Salix had non-U.S. headquarters, all of them except one. The one U.S. bidder was Mylan, which is in the process of moving its headquarters to the Netherlands. So I would like to submit this for the record.

You know I am a beer drinker. I love to make this point. You cannot find American beer anymore because the largest market

share is Sam Adams with 1.4 percent. It is because of our tax code that this is happening.

And we will look back 5 or 10 years from now at this testimony you all gave and say, “Why did we not listen to them?” And it is bipartisan, it is nonpartisan. It is not about who is up, who is down. It is about simply creating an environment for success.

So I thank you all for being here and for making that point so clearly. I told Dr. Tyson I liked her testimony. Here is part of it that I like, but it is so troubling.

The global Fortune 500 U.S. participation has declined more than any other country—any other country—from 179 down to 128, and the foreign-based competitors to American companies are all headquartered in countries with lower rates.

By the way, 93 percent of them are in countries that have a territorial system. So we are getting left behind. We are on the sidelines just watching this happen.

The one issue I think we do not do a good enough job of pointing out is that this is about workers, and one reason I really liked your testimony, Dr. Boskin, is because you talked about that.

If you could, just go into a little more detail on why this is about workers. We have the CBO study that shows 70 percent of the corporate tax burden is borne by the workers. We have this AEI study. They looked at 72 countries over 22 years. They found that for every 1 percent increase in corporate tax rates, wages decreased by 1 percent. You have this Federal Reserve Bank of Kansas City study that shows a 10-percent increase in corporate taxes reduces annual gross wages by 7 percent.

We all want to see an economy where there are rising wages, and, unfortunately, that is not happening now. We all want to see middle-class families be able to get ahead.

Tell us why corporate tax reform should matter.

Dr. BOSKIN. Senator Portman, you are exactly right. Over time, wages tend to reflect productivity growth, not perfectly, but roughly. And the clearest evidence we have is that higher investment rates lead to higher productivity.

Fixing some of these issues of where real activity is located with corporate reform and overall reform would increase productivity and increase growth. Most of the benefits of that growth would go to workers in increased wages.

In the short run, it would also help reduce this excess unemployment. It would give growth a boost and, therefore, reduce the number of people out of the labor force as people have an opportunity to reenter with decent jobs.

So I think overwhelmingly the evidence is that the benefits would go to workers, not 100 percent, but 70 percent by the CBO study is probably about right.

Senator PORTMAN. Which is so badly needed right now. The other thing that was brought up here earlier by Dr. Diamond was the macroeconomic analysis being helpful.

We have had this debate back and forth over the last few years. In fact, there was an amendment passed during the budget resolution discussion a few years ago, the only budget resolution discussion we have had—hopefully we will have another one this year—about providing a macroeconomic score not just for the final prod-

uct, but, as Dr. Diamond has said, for the process, so that you have some sense at least what is pro-growth and what is not.

Can you tell us, Dr. Diamond or Dr. Tyson or Dr. Gravelle, why that is so important?

Dr. DIAMOND. I think it is important. If you just take a very popular management adage, which is, if you cannot measure it, you cannot manage it, I think that is true for our economy.

If we cannot measure what different reforms will do, what the impacts will be, then how can we expect to get the tax reform to its most efficient form?

On this corporate reform issue, a problem I have with the strict just base-broadening, rate-reducing approach is that we do leave all of the current flaws in the system, the flaws that Jane has brought up, with different treatment of different types of assets, if we have accelerated depreciation for equipment but not for structures. At the same time, if we just lower the rate a little, have a very timid reform, it is not going to have a big impact on growth.

Maybe we should do something more to really create a new modern income tax approach. I think Alan Auerbach has given a good framework for that of moving to a destination-based cash-flow tax. So we would reduce our effective rate on capital income to zero. We would now lead the world in the lowest tax on investment and corporate income, and I think that would be a great thing for the U.S.

Senator PORTMAN. Are there any other comments on that? Then my time is expired.

Dr. TYSON. Can I just say that I completely agree with the notion that we should be assessing our macroeconomic policy and the composition of our fiscal policy in terms of the growth and efficiency issues we have been focused on today.

I do want to indicate, however, that there are certain areas of spending where we also need to take this look. So we are under-investing in our infrastructure. That has effects on efficiency and growth over time. We are under-investing in research and development and basic science. We have cut that way back, and we continue to threaten that.

Probably of all of the tax incentives which appear to work and of all the evidence of government spending that appears to generate long-term positive growth effects, R&D is the area. So I would say if we are going to do this, we need to focus on both the tax side and the spending side on research and development.

And I would add here education, because we have been talking about labor force participation rates. And technology and the technological requirements of skills are changing, and the skills of the labor force are not keeping pace, and that keeps more people out of the labor force. So we have to focus on the returns to education, and on making adequate investments in education.

Senator PORTMAN. And for those people who are in the process, we will achieve higher productivity because of better skills training.

Thank you, Mr. Chairman. Thanks for your indulgence.

The CHAIRMAN. Thank you, Senator Portman.

Senator Grassley?

Senator GRASSLEY. Thank you very much. And if you wonder why I did not give you the proper attention by coming here at the

last minute, I was just chairing another committee on sex trafficking.

I am going to go to Dr. Boskin with one question and then one question for Dr. Diamond, and the rest I will put in the record.

Dr. Boskin, you dealt with the distortions of high marginal tax rates, and I am sure you are aware that low-income people sometimes have the highest marginal rates or very high marginal rates because of phase-out of certain benefits.

One statistic I have from the Budget Office is that in 2013, the average marginal effective tax rate faced by low- to moderate-income workers was 32 percent. While that 32 percent is average, many low-income individuals may experience marginal effective rates far exceeding the top statutory rate of 39.6 percent paid by the wealthy.

So my question to you is, in your view, what do such high marginal rates mean for low-income individuals attempting to advance up the economic ladder? And probably more importantly, does it have any consequences for the entire economy?

Dr. BOSKIN. The answer is "yes" in both cases, Senator Grassley. It obviously is one reason why the labor force participation is modest at those levels.

There are some features that have tried to redress that. The Earned Income Tax Credit has incentives in both directions, but on balance is less distortive than what it replaced.

But I would say that a big part of the problem is, we have so many programs and people are eligible and the rules about them are so, not only complicated for the people involved, but they wind up enforcing very substantial phase-outs because of the interaction of the programs.

One of the ways we could develop some resources for necessary spending that Dr. Tyson mentioned would be to make the current set of programs in so many areas a lot more effective and efficient.

We have 100 antipoverty programs, we have 46 job training programs, et cetera. We should have a small number that work well, and we could save a lot of money, target it better, and it would be better for the people and the economy. We would get more work. People would have a better incentive to invest in climbing up the ladder, to invest in their skills.

I think that, on balance, it is time to do that as well as reform the tax code.

Senator GRASSLEY. Dr. Diamond, your testimony touches on the need for fundamental tax reform to be guided by principles of horizontal equity.

Too often the current debate on tax reform has been preoccupied by talking points about so-called "wealthy" not paying their fair share, but the truth is, provisions of the current tax code that seek to encourage or discourage certain types of activity not only result in a handful of well-to-do taxpayers paying low tax rates but also a wide disparity in tax rates within income groups.

So I would like to have you elaborate more on how the principle of horizontal equity has been eroded since 1986 and what that means to economic efficiency.

Dr. DIAMOND. I think it is an important concept that we treat people in equal circumstances equally, and that is the concept of

horizontal equity. It is that two taxpayers who are virtually the same should be treated in an equal manner.

The problem with horizontal equity is that, as we treat different people differently, we give them incentives to shift their behavior. Most of the horizontal equity is driven by the plethora of preferences that we give and that are available under the income tax. So that creates a different situation for one person who is very similar to another person.

Often this is looked at between single-earner families versus dual-earner families, and you try to compare the taxes they pay. Often one faces a much higher tax burden than the other, or one faces a tax benefit while the other faces a tax burden.

So it is important. I think it is just important, from an equity goal and just so the system seems fair, that we treat people who are equal equally.

Senator GRASSLEY. Thank you, Mr. Chairman. I will submit other questions for the record.

The CHAIRMAN. Thank you, Senator Grassley.

We are grateful to all four of you. You have come up with an awful lot of good suggestions for us, and I want to thank you for appearing here today.

I also want to thank all the Senators who participated.

Any questions for the record should be submitted no later than Tuesday, March 3rd.

We will adjourn this hearing at this time. Thank you for your time. We really appreciate it.

[Whereupon, at 12:10 p.m., the hearing was concluded.]

APPENDIX

Additional Material Submitted for the Record

Prepared Statement of Michael J. Boskin, Ph.D., Tully M. Friedman Professor of Economics and Hoover Institution Senior Fellow, Stanford University

Chairman Hatch, Ranking Member Wyden, and other distinguished members of the Committee, it is a pleasure to renew my long-standing association with the Senate Finance Committee, which dates back several decades, to the Chairmanship of Senator Long. I've worked with the Committee on issues ranging from the Tax Reform Act of 1986 to improving the nation's measures of inflation and indexing government programs. I recall the pivotal role Senators Packwood and Bradley, and Roth and Moynahan, played in those times. I know that both of you and other members of the Committee have already given much time and effort to tax reform issues. So I will keep my response brief, highlighting a few key issues. I ask that my full written testimony be entered in the record.

I. INTRODUCTION

Views of what constitutes the "best" tax system date almost from the dawn of political philosophy. The suggested ways to balance concerns with economic efficiency, equity, administrative simplicity and reliability have evolved considerably since the 18th century when Adam Smith enunciated these Four Canons of Taxation and Colbert famously quipped that "the art of taxation consists in so plucking the goose as to obtain the largest possible amount of feathers with the smallest possible amount of hissing." But modern research and teaching on taxation issues still emphasizes efficiency and equity and their tradeoffs. How and how much do various taxes affect economic growth, resource allocation, the distribution of well-being and revenue?

Before turning to that subject, let me emphasize the likely large payoff to a better tax system. There is a tremendous opportunity to improve the federal system of corporate and personal income taxation in a manner that will significantly boost economic growth. To be sure, regulation, trade, education, training, immigration and monetary policies can also promote or hinder growth, but tax and spending—and therefore debt—policy reforms are likely to be the most potent.

When the government collects taxes to finance spending, it distorts the allocation of resources. The tax will affect private decisions. Our income taxes doubly (even triply) tax *some* types of saving and thus distorts the incentive to consume versus save or, alternatively, to consume in the present versus the future, e.g. at retirement. Both income and payroll taxes distort the incentive to work, etc.

The severity of these distortions depends on two things: first, the size of the "tax wedge." How high is the real effective marginal tax rate that drives a wedge between the before and after tax prices paid and received by economic agents? For example, between the before-tax return to investment and the after-tax return to saving; between the wages paid by employers and those received by workers, and so on. Second, how sensitive, or, using economists' jargon, elastic, is the activity to changes in tax rates? Numerous studies, including my own, show that some activities are quite sensitive to tax rates, for example, the realization of capital gains and the labor supply of second earners in families, whereas others, for example tobacco consumption, are much less sensitive. The combination of the size of the wedge and the sensitivity of the activity to it determines the severity of the tax distortion.

The burden that these tax distortions impose on the economy goes up with the square of marginal tax rates. Doubling the tax rate quadruples the inefficiency or waste or harm done by the tax distortion. *Thus, high marginal tax rates are very bad for the economy.* This is not a doctrinal issue. It has to do with the area under supply and demand curves. When the cost of these distortons is included, the cost to the economy of each additional tax dollar is about $1.30 or $1.40. Thus, a key to the quality of the tax system—how badly it distorts the economy, hinders growth, misallocates resources—is the level of *effective* marginal tax rates. *The lower the effective marginal tax rates, the smaller the distortion of private decisions.*

The tax dollar (which costs the economy $1.30 or so per dollar raised) is put into a bucket. Some of it leaks out in overhead, waste, and so on. (That is also true in the private sector, although competition tends to reduce such inefficiency.) In a well-managed government program, the government may spend $.90 of that dollar on achieving its goals. Inefficient programs would be much lower, e.g. $.40 on the dollar. Thus, another key to an efficient tax system is *effective spending* that both fulfills important societal needs and keeps the revenue needed to the minimum necessary.

The effective tax rates on private activity can be quite different from statutory rates because they interact with the tax base and can cascade across several taxes and levels of government. For example, state and local income taxes and may add to the distortions caused by the federal income tax. Clearly, the broader the tax base, the lower the rates to raise any given amount of revenue. Hence, most economists agree that *broad bases and low rates are hallmarks of a good tax system.* Narrow bases and high rates do much more harm.

II. FIVE BIG-PICTURE TESTS FOR TAX REFORM

I have five big-picture standards or tests that I apply to tax reform proposals. I will focus primarily on the first, economic performance, particularlyeconomic growth, not only because that is the subject of this hearing, but also because it is growth that makes everythng else possible: rising living standards, revenue to fund government programs, etc.

1. Will tax reform improve the performance of the economy?

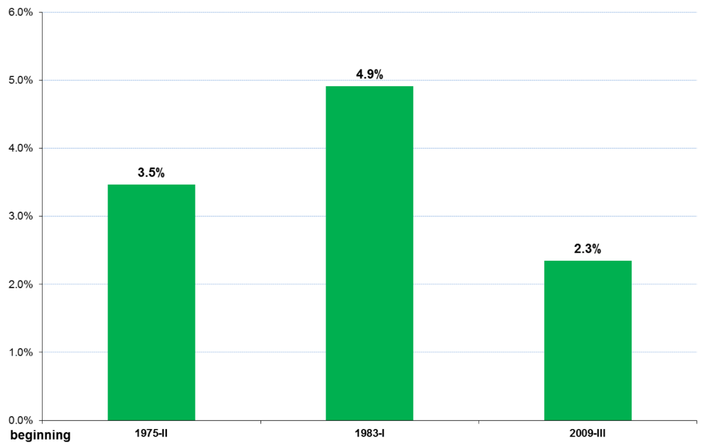
By far the most important aspect of economic performance is the rate of economic growth, because that growth determines future living standards. The economy's potential output grows at roughly the rate of productivity growth plus the rate of labor force growth. It is well known that the current economic recovery has been anemic relative to previous recoveries from deep recessions (Figure 1). We should have been growing at 4%, not the barely over 2% of the past five and a half years. And we should not settle for the anemic growth projections currently being made, e.g. 2.1% long-run growth by CBO. The nation's top economic priority must be to strengthen productivity, labor force participation, and skills, and to slow the increase in the ratio of retirees to workers.

The most important way the tax system affects long-run economic growth is through the rates of saving, investment, entrepreneurship, work (see Figure 2) and human capital investment. Business investment has been especially lagging in recent years. These heavily influence productivity, output per worker, the prime determinant of wages on average over time. Productivity has been very weak in recent years (Figure 3), and economists are debating whether this is from a drying up of fundamental productivity-enhancing innovation, just cyclical weakness, or "secular stagnation."

Modern academic public economics concludes that heavy capital income taxation at the corporate and/or personal level substantially harms capital formation and growth. This is why most prominent academic economists who have studied the issue recommend taxing consumption, or that part of income which is consumed. Such a tax, in its pure form (and all real world taxes are compromises in this regard) is neutral between saving and consumption (intertemporal neutrality) and also among types of investment (atemporal neutrality). Think of intertemporal neutrality as a level playing field goalpost to goalpost and atemporal neutrality as level sideline to sideline. Even a perfect income tax (which would require accurately measuring true economic depreciation and inflation adjustment, among other issues) would only achieve atemporal neutrality, not the far more important intertemporal neutrality. A pure consumption tax, however levied, would guarantee both. A growing body of research suggests that reforming the corporate and personal income

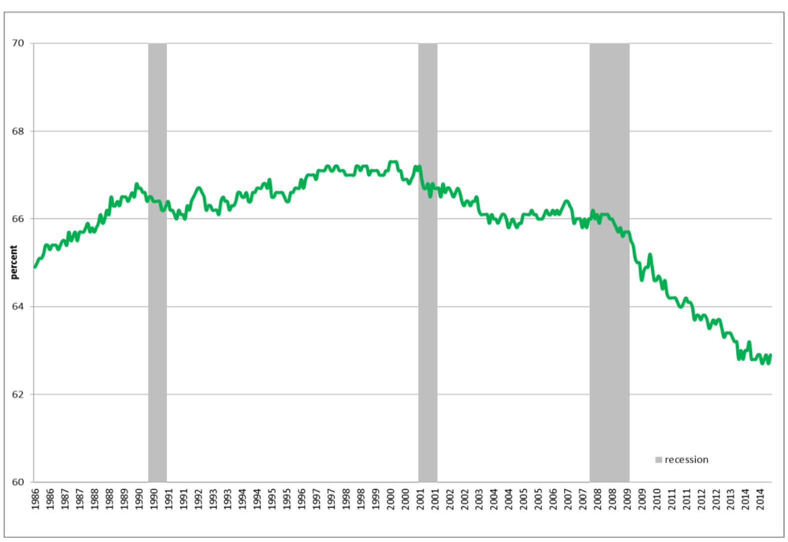
taxes into consumption taxes levied at the lowest possible tax rates is the most potent policy reform available to boost growth.[1]

Figure 1. Average U.S. Real GDP Growth First 22 Full Quarters after Severe Recession Trough



Source: BEA

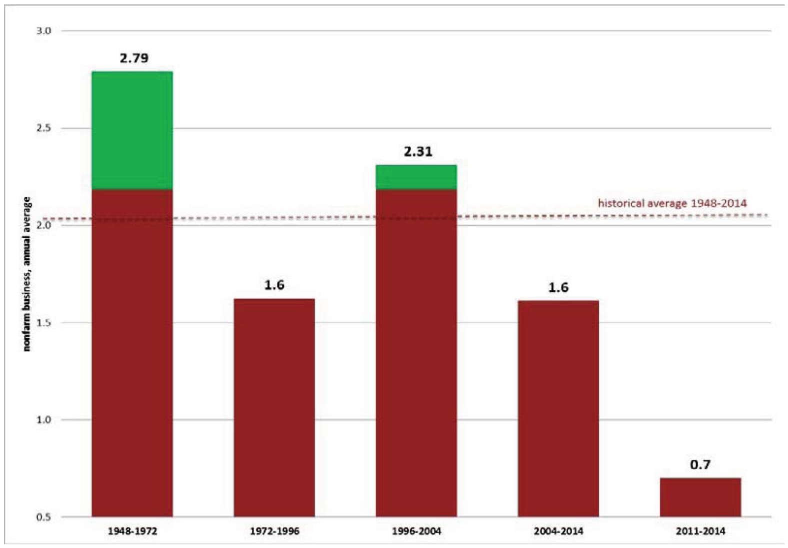
Figure 2. Civilian Labor Force Participation Rate



Source: BLS

[1] In chronological order to see the development of ideas, see Boskin (1978), Summers (1981), Lucas (1990 and 2003), Prescott (2002).

Figure 3. Are Technology-Enhancing Productivity Gains Weakening?



Source: BLS

Nobel laureate Professor Robert Lucas, in his research and 2002 Presidential address to the American Economic Association, concludes that removing the tax distortions to saving and investment and lowering marginal tax rates are *by far* the most important avenue for improving economic well-being ofany potential public policy reform. Indeed, a pure consumption tax at historical tax levels would add 7½%–15% to income per year, mostly in higher wages.That's the better part of a decade of gains in per capita incomes.

The U.S. national saving and investment rates are low, in part because the current tax system, on balance, is biased against them. Redressing thatimbalance is very important and should be a major component of tax reform. That is especially so, given the closely related negative side effects on saving and investment from the growth of the national debt and unfunded social insurance transfers to the elderly. On this test, low-rate consumption taxes work best, high-rate income taxes worst.[2]

2. Will tax reform affect the size of government?

Tax reforms that more closely tie the payment of taxes to expenditures will promote a more effective and efficient government for the broadest population. A new tax—a broad-based consumption tax, like a European VAT, for example—may just be piled on top of the existing taxes and used to raise revenue to grow government. This is what has happened in many European countries and is a major detriment to their economic performance.

3. Will a new tax structure affect federalism?

Tax reforms can affect the federal system in many ways. Some types of federal tax reforms would implement taxes heavily relied on by state and local government, e.g. retail sales taxes (or VAT). We should favor those that strengthen federalism and devolve authority and resources to state and local government rather than agglomerate them at the federal level.

4. Will a new tax structure likely endure?

We have had over 20 pieces of major tax legislation since I first met with this Committee, more than one every Congress. I have advised on many of them. We should be concerned that we might move to a better tax system only to undo it

[2] The broader the tax base, the lower the rate or rates. But deductions and/or credits are theoretically desirable under some circumstances in an optimal tax system. See Stiglitz and Boskin (1977) and Feldstein (1980).

shortly thereafter. In 1986, the trade-off was lower rates for a broader base. That was slightly undone in 1990, substantially so in 1993; then rates were reduced, then raised and raised again, especially at the top and on capital income. Simultaneously the base, on balance, has eroded. A more stable tax system would reduce uncertainty and complexity and, cet. par., increase investment and growth.

Estimates of the annual compliance burden range into the many billions of dollars, including the (many frustrating) hours devoted to that task. The tax system is clearly too complex. If a new tax, even one deemed administratively simple itself, were added without removing the income taxes, large additional administrative and compliance costs would result. Remarkably, the system of voluntary compliance yields a very high percentage of income tax liabilities actually due, especially when viewed relative to other countries. That speaks well of Americans' basic values. But there is episodic concern, for example in Treasury, that the system of voluntary compliance will be decreasingly effective over time and the nation will be driven to transactions taxes unless a simpler tax system replaces the current complex income tax system.

5. Over time, will tax reform contribute to a prosperous, stable democracy?

Will tax reform alter the number of people on the income tax rolls? Or the number receiving income from government? Or alter the ability of the economy to promote upward economic mobility? We now have a higher ratio of people who are net income recipients to people who are net taxpayers—many are both income taxpayers and benefit recipients—than at any time in recent history. That reflects several causes. First, the harm to many from the deep recession and the government's response to it; second, changes in the distribution of income, due primarily to technology and globalization in recent decades; third, the growth of traditional transfer payments, and the EITC and other features of the income tax itself. We must deal with this both on the tax side (underground economy, chary of too many off the income tax rolls) and, on the transfer payment side, especially entitlement cost growth which is is increasingly crowding out everything else in the budget.

EQUITY

Another important criterion of tax policy is equity, horizontal (the equal treatment of equals) and vertical (the distribution of the tax burden, or more generally, the distribution of taxes and transfers). While equity is important, efficiency and growth require that the rate(s) be as low as possible, including the top rate on the most economically productive people and small businesses, but high enough to finance the necessary functions of government. There has been a substantial increase in, and debate about, higher taxes on the "rich." Equity is certainly an important criterion for tax policy. But it is useful to remember that over the period since 1980, when most studies show more rapid gains in higher incomes, taxes became *more* progressive (CBO). Indeed, the U.S. has the most progressive tax system in the OECD. The top 1% of taxpayers, with 22% of income, pay 38% of income taxes, whereas almost half pay none (some pay payroll taxes and, of course, in most states, sales taxes). Most importantly, most redistribution occurs, and should occur, on the spending side of the budget. The post-tax and transfer distribution of income, is less unequal, as is the distribution of consumption, than the distribution of market income, the focus of most studies. Indeed, for many people, consumption better measures long-run average income than does current income.

Finally, whatever one's views are about tax rates on higher incomes, it is important to understand that taxes on the rich tend also to be taxes on getting rich. And we must be careful not to create obstacles to getting ahead, which is the most basic force driving the economy.

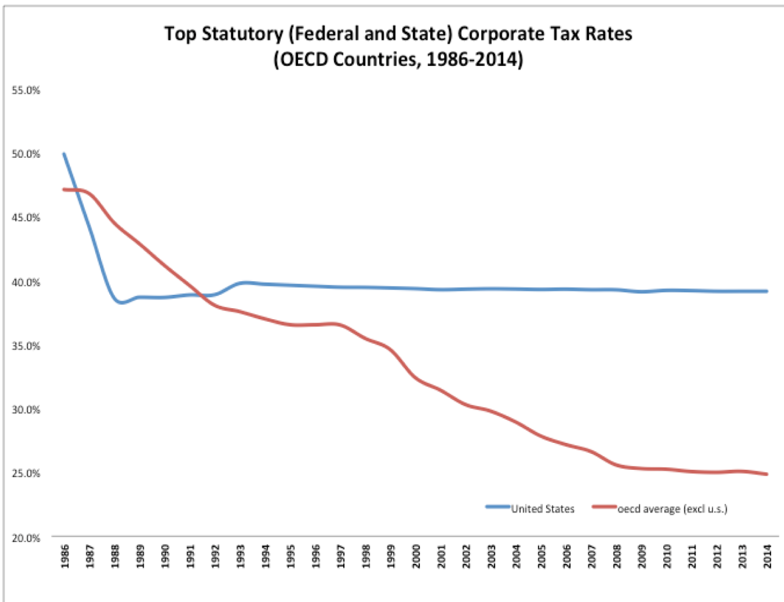
A progressive consumed income tax can thus be designed to be far less harmful to economic growth than the current individual and corporate income taxes, while allowing subtantial flexibility in treatment of households in different circumstances.

CORPORATE TAX REFORM

The U.S. has the highest corporate income tax rate of any advanced economy (50% higher than the OECD average (Figure 4) and is one of the few that still taxes worldwide income. At the time of the 1986 reform, we were about at the OECD average. But most countries have since lowered their corporate taxes. Many major competitors, Germany and Canada among them, have reduced their corporate tax rates, rendering American companies less competitive globally, harming our companies and their workers. Of course, various credits and deductions—such as for depreciation and interest—reduce the effective corporate tax rate. Corporate income

is taxed a second time at the personal level, as either dividends or capital gains, the taxes on which have been raised recently. Netting everything, including the personal taxes paid on corporate source income, our corporate source income taxation retards and misaligns investment, and these problems will only get worse as more and more capital becomes internationally mobile. We have a corporate tax better tuned to 1965 than 2015.

Figure 4. Top Statutory (Federal and State) Corporate Tax Rates (OECD Countries, 1986-2014)



Source: OECD database

This complex array of taxes on corporate income produces a series of biases and distortions. The most important is the bias against capital formation, which decreases the overall level of investment and therefore future labor productivity and wages. To repeat, most of the corporate income tax is shifted onto labor, e.g. by decreased capital formation. Also important are the biases among types of investments, depending on the speed of tax vs. true economic depreciation; against corporate (vs. non-corporate) investment; and in favor of highly leveraged assets and industries. These biases assure significant impediments to overall capital formation that vary systematically. There is considerable evidence that high corporate taxes are economically dangerous. An exhaustive study by the OECD concluded that "Corporate taxes are found to be most harmful for growth, followed by personal income taxes and then consumption taxes."

Thus virtually every major tax reform proposal in recent decades has centered on lowering tax rates and broadening the tax base, Most porposals moving toward taxing broad consumed income, and reducing the double taxation of corporate source income. This could be accomplished by junking the separate corporate income tax, integrating it with the personal income tax (e.g. attributing corporate income and taxes to shareholders or eliminating personal taxes on corporate distributions), and/or allowing an immediate tax deduction (expensing) for investment, which cancels the tax at the margin on new investment and hence is a priority of most economists. And in the personal tax, by expanding or eliminating the limits on tax-deferred saving. The Hall-Rabushka Flat Tax, the Bradford progressive consumption tax, the Nunn-Domenici tax, a value-added tax (VAT), the Fair Tax retail sales tax, four decades of Treasury proposals, the 2005 President's Tax Commission proposals, the Simpson-Bowles Commission proposals, Wyden-Gregg and the December 2014 Com-

mittee background paper contain in varying degrees elements moving in this direction. The tax changes of the past few years have moved in the opposite direction: higher rates on a narrower base and higher rates on capital income.

Tax reform to strengthen economic growth should therefore move toward lower rates on a broader, more consumed income base. If the reform is designed to be revenue-neutral in static estimates, the actual revenue produced by broadening the base and lowering the rates is likely to be somewhat higher, as taxable income would increase more due to faster growth and less tax avoidance than typically assumed (Feldstein). Any such "revenue dividend" relative to revenue estimates might wisely be devoted to reducing deficits and debt or additional growth promoting fiscal changes.

Reducing the corporate rate would help strengthen what is an historically anemic recovery (Figure 1) from such a deep recession. The late Arthur Okun, CEA Chair under President Johnson, concluded that the corporate tax cut was the most powerful of the Kennedy tax cuts in strengthening slow growth. Replacing the current tax system with a revenue-neutral equivalent of the reforms mentioned above, phased in over a few years, would also strengthen the economy long-term. American workers would benefit from more jobs in the short run and higher wages in the long run.

However, if tax reform includes a new tax that is used to grow government substantially, it will seriously erode our long-run standard of living. The VAT has served that purpose in Europe and, while better than still-higher income taxes, the larger-sized governments it has enabled there are the prime reason European incomes per capita are 30% or more lower than ours. Trading a good tax reform for a much larger government is beyond foolish. No tax reform can offset losses that large. Hence, a VAT should only be on the table if it replaces other taxes and is accompanied by rigorously enforceable spending control that prevents the need for much higher taxes.

The economies of Western Europe set their taxes and government spending at about half of GDP. In the United States, the figure has averaged about one-third (including state and local government). We have demonstrated we can make that level of government in the economy consistent with solid economic growth and rising standards of living, whereas a substantially higher tax burden is much less likely to be so. The negative correlation between economic growth rates and tax burdens in the OECD countries is suggestive. (Of course, there are any other factors that influence growth rates and per capital income differentials.) Moving from U.S. levels to Western European levels might cut the growth rate by a full percentage point. Over a generation or two, that cumulates to huge differences in standards of living.

So any sensible strategic management of our economic affairs starts with preventing much higher taxes and spending. Projections of entitlement growth imply marginal tax rates on the broad middle class of 60% or more. Simply put, entitlement reform, also the purview of this Committee, is also tax reform.

CONCLUSION

We have a small window of opportunity to reform our tax system and strengthen economic growth before demographics drive higher entitlement spending financed by higher taxes on a dwindling fraction of the population. Witness how difficult it is for the Europeans to make reforms which we would consider quite modest, even from much higher levels of spending and taxes.

Our collective interest is in keeping the overall hand of government in the economy modest, targeted and effective, and thereby keeping tax rates as low as possible. Reforming the corporate and personal income taxes with broader bases and lower rates less inimical to economic growth should be the Committee's top priority.

If major reform of the corporate and personal income taxes proves politically infeasible and, as some assume, only modest corporate reform is possible, it is important to bear in mind the many linkages between the corporate and personal taxes and the desirability of eventually keeping the top personal rate and the corporate rate roughly equal. Most businesses are not C-corporations and their income is taxed under the individual income tax.

But if the stars align, as they eventually did in 1986, to lower rates on a broader base of both taxes, something like three individual rates with a top rate of 30% or less, as with Simpson-Bowles and some other proposals mentioned above, with simplified saving incentive features and a corporate rate roughly equal to the top personal rate, with simplified but rapid capital cost recovery and territoriality, with a

broader base by limiting or capping preferences, would spur economic growth in the short and long run.

Senator Long's famous dictum, that tax reform means "Don't tax you, don't tax me, tax the fellow behind the tree," reflects the trench warfare focused on narrow issues of limiting this deduction or that credit that tax legislation engenders. So much more than that is at stake for our country. The evolution of taxes and spending will be one, perhaps the primary, determinant of whether America rekindles a successful dynamic economy providing rising standards of living, upward economic mobility, and the resources to support the disadvantaged; or whether, like Europe, it slides into complacent economic stagnation.

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QUESTIONS SUBMITTED FOR THE RECORD TO MICHAEL J. BOSKIN, PH.D.

QUESTIONS SUBMITTED BY HON. ORRIN G. HATCH

Question. Dr. Gravelle's testimony argues that ". . . it should not be surprising that a revenue neutral tax reform is unlikely to have a significant effect on output, given the necessity of base broadening to lower rates." In support of the argument, a study is cited that assessed the Tax Reform Act of 1986—or TRA86—and concluded, according to Dr. Gravelle's summary, that it "left incentives roughly unchanged." Given that, you wouldn't expect much in terms of growth effects from a revenue neutral reform exercise. Before getting to my question, I would note that the 1997 study in question does conclude that, at the time, ". . . saying that a decade of analysis has not taught us much about whether TRA86 was a good idea is not at all the same as saying it was not in fact a good idea. We think it was." Moreover, since that analysis, a Nobel Prize winning economist and his coauthor have provided evidence that tax reforms in 1986 coupled with changes in regulations governing retirement holdings help account for large long-run increases in corporate equity values relative to GDP, something that I would think is a positive for the economy and everyone with a retirement account. My question to the Panel is whether everyone agrees that it is "simply difficult, if not impossible" to design a revenue neutral tax reform plan that would have significant enough effects on incentives to increase economic growth?

Answer. It is possible to design a revenue-neutral tax reform that would have significant incentives to increase economic growth. The revenue-neutral tax reform that would most likely increase economic growth would involve a broadening of the tax bases and a lowering of the corporate and personal rates, combined with a shift of the broader base to consumed income. Such a reform, even with due allowance for the likely partial erosion of such a pure tax reform in the legislative process, would increase saving, investment, and capital formation and therefore growth and future incomes.

Question. Dr. Boskin, many agree that a wholesale switch from the existing income tax system to one based on consumption would generate significant economic gains and increased standards of living. Of course, transitioning from one system to another would involve a lot of work, but the possible gains make it worth considering. However, some who look to consumption taxes see them as possible additions

to the income tax system which would generate a European-like system in which we tax both income and consumption. Dr. Boskin, given experiences of other countries, and European countries in particular, do you believe that it would be a good idea to retain much of our income-based system of taxation and add a consumption tax, perhaps in the form of a VAT, onto the income tax?

Answer. I do *not* believe it would be a good idea to add a broad federal consumption tax on top of the existing tax system. That would likely fuel a further unnecessary growth of government to the detriment of the economy. I do believe that replacing the corporate and personal income tax with a broad-base value-added tax or an integrated corporate and personal income tax system based on consumed income would be a good idea. But only if combined with some way to control spending so that the broad-based consumption tax did not just grow and grow.

QUESTIONS SUBMITTED BY HON. JOHN THUNE

Question. Some have proposed a cash-flow tax rather than our current system for taxing business income. Such a model would move towards taxing consumption by allowing business to fully deduct all of their capital investments in a given year. Have you looked at cash-flow tax reform proposals and do you believe they generally promote economic growth? If so, why is this the case?

Answer. Yes, I believe that a properly designed cash-flow tax reform proposal would increase economic growth because it would increase saving and investment. The deepest analysis of this type of reform is by the late David Bradford in several works, starting with Blueprints for Basic Tax Reform when he was at the Treasury and culminating in a series of books and articles on what he called "The X-Tax."

Question. In order to boost growth, you mentioned reforming corporate and personal income taxes into low tax rate consumption taxes. Could you further explain how the current tax system is likely causing an imbalance in U.S. national saving and investment rates?

Answer. The U.S. has a very low personal and national saving rate, compared both to our history and to other countries. When desired investment exceeds saving, America must import capital to finance the difference. Our tax system, which doubly and triply taxes some saving, is one cause of this shortfall. Our current tax system taxes some types of saving once; others, up to four times. The latter occurs when saving, outside of household tax-deferred accounts such as IRAs and 401ks, is invested in taxable corporate activities which later are subject to the estate tax. The double taxation in the personal income tax—first when income is earned and then when saving earns a return that is taxable, plus the corporate tax plus the estate tax—is the heaviest taxation of saving. At the other extreme, saving inside tax-deferred accounts is only taxed once and, if invested in the non-corporate business sector, does not directly pay the corporate tax and, if below the exemption level in the estate tax, is therefore only directly taxed once. The deductibility of interest and depreciation plus the special tax treatment of housing are items that tend to reduce the taxation of saving. It should be added that the low national saving rate in the United States, because it is below the rate of investment and therefore requires importing capital from abroad to finance the difference, is jointly determined with the trade deficit.

Question. You state that a progressive consumed income tax can be designed to be "far less harmful to economic growth than the current individual and corporate income taxes." How would you design such a tax so as to maximize economic growth but maintain progressivity?

Answer. The best way to redesign the tax code to maximize economic growth, for any given level of government spending, is to expand the tax base of both the personal and corporate income taxes, lower the tax rates, and allow full expensing of investment (adjusted for debt and interest) and a deduction for all personal saving (likewise adjusting for debt and interest). That would leave the tax base as consumption quite broadly defined. Better still would be to integrate the personal and corporate income taxes. Substantial progressivity could be maintained in a consumed income tax with two or more tax rates at the household level, above some exempt amount. Even a flat rate tax above an exempt amount would be progressive. It would have a rate of zero up to the exempt amount; then an average tax rate would rise with income, until reaching the flat positive rate at high incomes. Adding a second and/or third rate could make the tax more progressive still.

Question. You note that the OECD has found that corporate taxes are the most harmful to growth and that, in your view, high corporate taxes can be "economically dangerous." Please elaborate on exactly what you mean by this statement.

Answer. The U.S. has the highest statutory corporate tax rate of any advanced economy, 50% above the OECD average. The effective tax rate, accounting for deductions, is also out of line, but not as far. While there are many factors that determine the location of economic activity, business taxes are certainly one of them. Many types of capital are quite mobile among locations, even within the United States, let alone between the United States and other countries. Other things being equal, businesses will try to locate their activity in such a way as to minimize their taxes, shifting some economic activity abroad to the detriment of our economy. With less investment than otherwise, American workers will have lower productivity, which will harm their future wages.

The U.S. is also one of the very few countries that taxes its multinational companies on their worldwide income, an additional competitive disadvantage in the global marketplace.

PREPARED STATEMENT OF JOHN W. DIAMOND, PH.D., EDWARD A. AND HERMENA HANCOCK KELLY FELLOW IN PUBLIC FINANCE, RICE UNIVERSITY'S BAKER INSTITUTE FOR PUBLIC POLICY, AND CEO, TAX POLICY ADVISERS, LLC*

I. INTRODUCTION

Chairman Hatch, Ranking Member Wyden, and Members of the Committee, thank you for inviting me to present my views on the importance of tax reform in promoting growth and efficiency. My testimony will focus on the case for tax reform, general principles that I believe should guide the evaluation of tax reform, and a discussion of the potential economic effects of various tax reform proposals put forth in the last decade. Given the fiscal crisis facing the United States, it is my view that tax reform must minimize the distortionary effects of taxation wherever feasible, seek to maximize long-run economic growth, and make simplicity a priority to achieve reductions in compliance and enforcement costs.

II. THE CASE FOR TAX REFORM

Individual income tax revenues as a share of GDP are projected to increase significantly even before any policy changes are adopted to address the unsustainable nature of the U.S. budget. The Congressional Budget Office (2014, hereafter CBO) predicts individual income taxes will increase from 8.1 percent of GDP in 2014 to 9.5 percent of GDP in 2025. Under the CBO baseline, individual income taxes are projected to continue to increase to above 10 percent by 2039. Total revenues are projected to increase from 17.6 percent of GDP to 19.4 percent of GDP (only 1.6 percent below the Fiscal Commission target of 21 percent). Unfortunately, these built-in tax increases are not near large enough to offset the projected increases in spending. CBO projects that federal debt held by the public will increase from 74 percent of GDP in 2014 to 106 percent of GDP in 2039 (even under favorable budget assumptions about current law and ignoring the negative effects of higher debt). The obvious conclusion is that the major problem facing the United States is the unsustainable nature of spending increases moving forward. Whether revenue as a share of GDP remains at the projected level or is increased as part of a grand bargain, it is imperative that the United States reform its tax system to reduce economic distortions and maximize economic growth. Otherwise, the combination of rising taxes as a share of GDP and a relatively distortionary tax system could significantly hamper economic growth. This is particularly important given that, in general, economic distortions increase exponentially with the rate of tax.

Indeed, the income tax system in the United States is ripe for reform. The last fundamental reform of the system was the much-celebrated Tax Reform Act of 1986 (TRA86), which followed the classic model of a base-broadening, rate-reducing (BBRR) reform that financed significant corporate and personal rate cuts with the elimination of a wide variety of tax preferences. In the interim, however, many countries around the globe have reformed their tax structures. This is especially true for corporate income taxes abroad, where many nations—at least partly in response to the inexorable forces of globalization and international tax competition

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*The opinions expressed herein are solely my own and do not represent the views of the Baker Institute, Rice University, Tax Policy Advisers, LLC, or any other organization.

(Zodrow, 2010)—have dramatically reduced statutory rates while enacting base-broadening measures that have kept corporate tax revenues roughly constant as a share of GDP (Bilicka and Devereux, 2012). As a result, the United States, which was a relatively low tax country after TRA86, now has the highest statutory corporate tax rate in the industrialized world, and has also lost its advantage in marginal effective corporate tax rates (which take into account other features of a tax system, including accelerated deductions for depreciation and other investment allowances).

Proponents of corporate income tax reform argue that such high tax rates (1) discourage investment and capital accumulation and thus reduce productivity and economic growth; (2) discourage foreign direct investment in the United States while encouraging U.S. multinational companies (MNCs) to invest abroad; and (3) encourage U.S. and foreign multinationals investing in the United States to engage in income shifting, using a variety of techniques to move revenues to low tax countries and deductions to the relatively high tax United States. In addition, the combination of a high statutory tax rate coupled with a wide variety of tax preferences distorts the allocation of investment across asset types and industries and reduces the productivity of the nation's assets while exacerbating the many inefficiencies of the corporate income tax, including distortions of business decisions regarding the method of finance (debt vs. equity in the form of retained earnings or new share issues), organizational form (corporate vs. non-corporate), and the mix of retentions, dividends paid, and share repurchases (Nicodème, 2008).

A separate issue that has attracted a great deal of attention is the tax treatment of U.S. and foreign MNCs under current law. Following recent reforms in the United Kingdom and Japan, the United States is now the only major industrialized country that operates a worldwide tax system under which the foreign-source income earned by U.S. subsidiaries is subject to a residual U.S. tax when repatriated to the U.S. parent, subject to a credit for foreign taxes paid. By comparison, most other countries—e.g., 28 of the 34 Organisation for Economic Cooperation and Development (OECD) nations—operate a territorial system under which the active foreign-source income of their domestically headquartered MNCs is largely exempt from any residual domestic taxation. Proponents of a move toward a territorial tax system in the United States argue that it would improve the international competitiveness of U.S. multinationals and end the current tax disincentive for the repatriation of foreign-source income that arises as firms defer repatriation to avoid paying residual U.S. taxes.

There is also widespread discontent with the individual income tax system. The top marginal tax rate has increased to 39.6 percent from the 28 percent enacted under TRA86, while the number and value of individual tax preferences has grown substantially. Tax expenditures are defined as "revenue losses attributable to the provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability" by the Congressional Budget and Impoundment Act of 1974 (Joint Committee on Taxation, 2014). According to the U.S. Governmental Accountability Office tax expenditures are approaching the size of discretionary spending in 2013.[1] The arguments for reform are the same as those made during the debates surrounding TRA86 (McLure and Zodrow, 1987; Diamond and Zodrow, 2011): high individual tax rates coupled with widespread tax preferences inefficiently distort decisions regarding labor supply, saving, consumption patterns, and methods of compensation; significantly complicate administration of and compliance with the tax system; encourage tax avoidance and evasion; and result in a tax system that is widely perceived to be fundamentally unfair.

These developments have not gone unnoticed in the United States. Numerous proposals for reform have emerged. These include the reports of the President's Advisory Panel on Federal Tax Reform (2005), the National Commission on Fiscal Responsibility and Reform (2010), and the Debt Reduction Task Force of the Bipartisan Policy Center (2010). In addition, the co-chairs of President Obama's 2010 fiscal commission, Erskine Bowles and Alan Simpson, issued *A Path Forward to Securing America's Future,* which included $2.5 trillion in deficit reduction, a BBRR reform of both the corporate and individual income tax systems that would raise almost $600 billion for deficit reduction, and a switch to a territorial tax system for international income. The most comprehensive proposal for reforming the corporate and individual income tax systems was put forth as a legislative discussion draft

[1] The GAO issue summary is located at *http://www.gao.gov/key_issues/tax_expenditures/issue_summary#t=0.*

on February 26, 2014 by Rep. Dave Camp (R–MI), Chairman of the House Ways and Means Committee.[2] However, others have also put forth reform proposals. Senate Finance Committee member Benjamin Cardin (D–MD) introduced a proposal to impose a 10 percent progressive consumption tax that would reduce or eliminate individual income tax rates for most individuals (while maintaining the charitable deduction, state and local tax deductions, health and retirement benefits, and the mortgage interest deduction) and reduce the corporate income tax rate to 17 percent. House Ways and Means Committee member Devin Nunes (R–CA) is working on a proposal to reform business taxes so that the tax rate on corporate and non-corporate businesses would be 25 percent on net business income. The proposal would allow businesses to expense new investments, would limit interest expense deductions, and repeal other existing deductions and credits. This bill does not deal with individual tax issues. Chairman Ryan of the House Ways and Means Committee has stated that tax reform is a major component of the Republican plan to promote economic growth and listed key goals of tax reform, while Finance Chairman Hatch and Ranking Member Wyden established working groups to examine key issues and develop proposals. The President released a framework for business tax reform in 2012 that would reduce the corporate tax rate to 28 percent and broaden the base by taking away business tax preferences. However, on the individual side, the President's proposals are at odds with most reforms and would be best described as a plan to increase tax rates on capital income (mainly on capital gains and dividend income) and tax expenditures (new $500 second earner tax credit and an increase in the child credit to $3,000 per child under five). The phase-outs of the expanded credits would also increase marginal individual income tax rates on labor income for some individuals.

The dilemma facing policymakers is choosing the structure of a tax reform package to meet several different goals.

III. GENERAL PRINCIPLES FOR EVALUATING REFORM PROPOSALS

Numerous criteria might be utilized to evaluate tax reform proposals. In my view any viable reform proposal should satisfy at least the following five criteria.

A. Revenue Neutrality

Fundamental reform of the income tax structure is sufficiently difficult that the process of reform should not be encumbered by a requirement to raise additional revenues, which would ensure that many if not most taxpayers would end up being "losers" from reform and make the passage of reform virtually impossible from a political perspective. To the extent that additional revenues will be needed to address our nation's deficit and debt problems, it is better to raise additional revenues by reforming the structure of the tax system in conjunction with spending reforms that reduce expenditures as part of a sweeping fiscal reform package. Thus, the process can be separated into a two-stage approach to reform—a revenue-neutral fundamental tax reform, followed by fiscal reform that reduces future budget deficits while reaching a compromise on distributional issues and the politically acceptable size of the government. However, it may be reasonable to reverse the order of the two-stage process. For example, President Obama's fiscal commission adopted targets for revenue (21 percent) and spending (22 percent in the short run and 21 percent in the long run) as a share of GDP.

Decisions regarding the size and scope of government must be left to the political process: a host of instruments, including the use of budget rules to limit expansions of the size of government, are available to reduce current deficits. But perpetuating a highly inefficient and complex tax system in the hopes that it might limit the growth of government is an extremely costly and highly inappropriate way of achieving that goal.

Also, revenue neutrality must be defined broadly to include long-run neutrality. This ensures that the long-run implications of provisions that accelerate revenues (e.g., conversion of retirement savings from traditional IRAs and similar accounts to Roth IRAs) are fully taken into account. At the same time, the definition of revenue neutrality, especially in the long run, should be broad enough to take into account conservative estimates of the dynamic revenue effects of reform-induced increases (or decreases) in economic growth.

[2] The legislative text of the discussion draft is available at *http://waysandmeans.house.gov/UploadedFiles/Statutory_Text_Tax_Reform_Act_of_2014_Discussion_Draft_022614.pdf.* Analysis of the draft legislation by the Joint Committee on Taxation is available at *https://www.jct.gov/.*

B. Equity: Distributional Neutrality and Horizontal Equity

Again, following the approach that was successful in the passage of TRA86, tax reform should be approximately distributionally neutral (using a reasonable revenue baseline). As in the case of revenue neutrality, fundamental tax reform is difficult enough from a political perspective without complicating matters further by attempting to redistribute the tax burden across income classes.

Also, another dimension of equity—the equal treatment of households with similar taxpaying capacity, or horizontal equity—should guide all proposals for fundamental tax reform, as it did in TRA86 and as recommended by virtually all public finance specialists. Note that the implications of adopting horizontal equity as a prime criterion for evaluating reform proposals are far-reaching. In particular, it implies that all forms of compensation, including currently untaxed fringe benefits, should be included in the tax base to the extent administratively feasible.

C. Simplicity

Tax simplicity is often emphasized in early discussions of fundamental tax reform, but is usually largely ignored as the process of tax reform unfolds. This time around simplification should be advanced as an essential criterion for any current reform of the tax system. While some tax complexity is unavoidable in measuring income accurately in today's complex economy, nevertheless there are many areas in which the tax code could be simplified significantly without seriously compromising accurate income measurement—for example, in the taxation of capital income, ad hoc adjustments for inflation that assume the Federal Reserve Board is successful in achieving its goal of maintaining inflation at around a 2 percent rate, rather than an elaborate system of comprehensive inflation indexing. More generally, any reform should adopt the simplification measures recommended in the 2005 Tax Panel report, including simplifying and coordinating various individual income tax credits including the standard deduction, personal exemptions, and the earned income tax credit; collapsing the current wide array of saving and investment incentives into a very small number of simplified plans; simplifying business accounting rules, especially for small businesses and in the area of depreciation allowances; and eliminating the alternative minimum tax.

D. Economic Efficiency and Tax Neutrality

An essential element of any successful tax reform proposal is the elimination of tax-induced distortions of economic decision-making (other than in a few very narrowly defined activities with widespread economic effects, such as investment in research and development and the emission of pollutants). As stressed in the debate surrounding TRA86, the government should in general not be engaged in an implicit industrial policy by distorting investment decisions through differential tax treatment of various investment activities and business sectors, and similarly should avoid distorting individual consumption decisions. While from a theoretical perspective economic efficiency can require differential tax rates, in practice, when one tempers efficiency considerations with equity concerns and takes into account the economic difficulties in determining an optimally differentiated tax structure and the political and administrative problems of implementing it successfully, simple economic neutrality—uniform tax rates on similar activities in the context of broad-based low-rate taxes—is a reasonable approximation to an efficient tax structure. Accordingly, economic neutrality should be a key guiding principle in the formulation of any fundamental tax reform proposal. This, in turn, has several implications.

Most fundamentally, the general approach to reform should follow the traditional path used in TRA86 of eliminating as many tax preferences as is politically feasible and using the resulting revenues to drastically lower marginal tax rates. This implies that the elimination of many preferences that have long been considered sacrosanct, even those not touched in TRA86, should be considered seriously. Note that such reforms are desirable on efficiency, equity, and simplicity grounds, and also to limit government expenditures that occur through the tax system and are thus subject to less scrutiny than direct expenditures. Moreover, many tax preferences are poorly designed in any case. The home mortgage interest deduction, discussed further below, is an excellent example. Although its primary purpose is to encourage home ownership over renting, it is very poorly designed to achieve this goal, as it offers little or nothing to low-and middle-income individuals who do not itemize, have total deductions that are less than or roughly equal to the standard deduction, or are subject to relatively low marginal tax rates. Instead, the vast majority of the benefits of the home mortgage interest deduction accrue to high-income taxpayers, encouraging overconsumption of housing at the expense of less investment in the rest of the economy.

In addition, neutral tax treatment should also be applied to saving decisions, that is, current consumption should not be favored over future consumption. In principle, this implies the tax base should be consumption rather than income. If the replacement of the income tax with a full-fledged consumption-based tax is not feasible at the current time, current personal income tax provisions that encourage saving should be maintained (although they should be simplified, along the lines described previously), and serious consideration should be given to reducing the burden of the corporate income tax on investment income. This would help alleviate the distortionary costs associated with the double taxation of corporate income.

E. Favorable Environment for Foreign Investment

Finally, in today's globalized economy, the income tax system in the U.S. should not put our multinational companies at a disadvantage relative to competing firms based in other countries; at the same time it should discourage tax evasion and tax avoidance, especially in the form of income shifting to low-tax countries. In particular, the tax system should not discourage foreign investment by U.S. multinationals or discourage investment in the U.S. by foreign multinationals. Although a full discussion of the intricacies of the tax treatment of foreign investment is far beyond the scope of this testimony, note that (1) in order to make investing in the U.S. attractive to foreign multinationals, the taxation of capital income in the U.S. should be concentrated at the individual level; (2) the "territorial" system advocated in the "Simplified Income Tax" proposed by the 2005 Tax Panel has the advantage of putting U.S. multinationals on an equal footing with most of their competitors, but exacerbates incentives for shifting income abroad and requires complex allocations of U.S. costs across domestic and foreign activities; (3) any approach that instead increased the inclusion of foreign income in the tax base of U.S. firms (e.g., the elimination of deferral) should be accompanied by corporate income tax rate reductions that would leave effective tax rates approximately constant; and (4) another advantage of low statutory rates under the corporate income tax is that they reduce incentives for income shifting to other countries with relatively low tax rates.

IV. ECONOMIC EFFECTS OF VARIOUS TAX REFORM PROPOSALS

An important argument in favor of macroeconomic analysis is that it would potentially inform policy makers explicitly about the long-run growth effects of alternative policies, and thus allow for the adoption of a more efficient tax system and increased long-run economic growth. This section discusses the macroeconomic effects of various tax policies and reform proposals in an effort to inform the debate on structuring tax reform.

A. Several Studies Comparing the Macroeconomic Effects of Various Taxes

The Organisation for Economic Co-operation and Development (OECD, 2008) compares different types of taxes in terms of their effects on economic growth. The OECD study concludes that corporate taxes are the most harmful to growth, followed by personal income taxes (including payroll taxes). High marginal personal income tax rates are also shown to discourage entrepreneurial activity. By comparison, consumption taxes have smaller negative effects on growth, while property taxes are estimated to be the least harmful. These results are broadly consistent with a large body of research that argues that consumption-based taxes are generally more efficient than income-based taxes, and that increases in corporate income and dividend taxes create large distortions relative to other taxes and should be minimized. In fact, the downward pressure on corporate tax rates around the world is evidence that many countries view high corporate tax rates as a impediment to growth, especially with an increasingly integrated global economy and an increase in the mobility of the capital stock.

Diamond and Viard (2008) draw similar conclusions. They analyzed the macroeconomic effects of a permanent tax rate reduction on different types of income, including wage, interest, dividend, and corporate income, as well as the effects of a permanent increase in tax credits and deductions. They used the DZ model to simulate each of these tax rate reductions assuming that the reduction was debt-financed for 10 years and then paid for by either a reduction in discretionary transfer payments or an across-the-board tax increase. The magnitude of the tax reduction is determined so that the decrease in revenue over the 10-year period following enactment is $500 billion with no behavioral responses. They found that the wage, dividend and corporate rate reductions led to an increase in GDP in the long run if discretionary transfer payments were reduced. The increase in GDP was largest for the reduction in dividend and corporate tax rates. Note that an increase in personal tax credits decreased GDP in this case. If the cuts were offset by an across-the-board

tax increase, the effect on GDP was negative for all of the tax cuts except for the dividend tax cut, which had no effect on GDP. The largest decrease in GDP (0.8 percent) occurred for the increase in tax credits (i.e., spending through the tax system). The implication is clear: a broad-based, low-rate tax system will increase economic growth while a narrow-based, high-rate tax system will reduce economic growth. President Obama's latest proposals move the United States toward a more narrow-based, high-tax rate system. These proposals are likely to reduce job growth and living standards in the United States and should be rejected.

The Joint Committee on Taxation (2005, hereafter JCT) examined the macroeconomic effects of three proposals that each provide $500 billion in tax reductions. The three proposals examined were a decrease in individual income tax rates, an increase in the personal exemption, and a decrease in the corporate income tax rate. They showed that an individual rate reduction would increase GDP by 0.3–0.4 percent in the long run if government spending were decreased to stabilize the debt to GDP ratio after 10 years. In the case of no fiscal offset, so that debt increases as a share of GDP, the individual rate reduction led to a decrease in GDP in the long run ranging from 0.2–0.5 percent. A corporate rate reduction led to an increase in GDP in the long run ranging from 0.5–0.9 percent if government spending were decreased to stabilize the debt to GDP ratio after 10 years, an increase in GDP ranging from 0.5–0.6 percent in the long run with a decrease in personal exemptions, and an increase in GDP in the long run ranging from 0.0–0.3 percent with no fiscal offset (the case in which debt increases as a share of GDP). Finally, they reported that an increase in personal exemptions led to an decrease in GDP in the long run ranging from 0.4–0.7 percent with no fiscal offset, and that an increase in personal exemptions increased GDP in the long run by 0.1–0.2 percent if it is offset with a decrease in government spending (substituting spending through the tax code for direct spending). The results indicate that corporate tax reductions have the largest growth effects, followed by individual income tax reductions, and then an increase in the personal exemption (which reduces growth unless government spending is reduced). The order of the growth effects of the tax reductions is consistent with the findings reported in OECD (2008) and Diamond and Viard (2008). This implies that to maximize U.S. economic growth policymakers should adopt a tax system characterized by low capital income tax rates, low individual income tax rates, and minimal tax expenditures. To achieve this outcome, the United States could follow the BBRR reform approach such as the Tax Reform Act of 1986 or a modification of the recently proposed Tax Reform Act of 2014. Alternatively, the United States could also adopt a more modern approach and move toward some form of a consumption-based tax system.

B. Dynamic Analysis of the Tax Reform Act of 2014

The Tax Reform Act of 2014 was a comprehensive proposal for reform of both the corporate and personal income tax systems. The corporate income tax (CIT) reform was structured as a traditional base-broadening, rate-reducing reform. The plan would have lowered the CIT rate to 25 percent, phased in over five years, and eliminated a variety of business tax preferences, including accelerated depreciation (so that tax depreciation would approximate economic depreciation), expensing of research and development costs and half of advertising costs, and the deduction for domestic production. The plan would have not allowed the last-in first-out (LIFO) inventory accounting rule and would have permanently created a 15 percent tax credit for research and development expenses.

The reform also changed the treatment of foreign source income, including moving to a 95 percent participation exemption (territorial) system. In this case, the effective tax rate is roughly 1.25 percent with a 25 percent CIT rate. It also allowed for current taxation of foreign source income from intangibles, defined as income in excess of 10 percent on basis in depreciable assets (excluding other subpart F income and commodities income) due to foreign sales at a minimum tax rate of 15 percent (25 percent for U.S. sales), subject to foreign tax credits. The 15 percent rate also applied to intangibles income (income in excess of 10 percent on basis in depreciable assets other than from commodities) on sales to foreign markets from the United States. The reform would have limited subpart F income to low-taxed income and created a minimum tax of 12.5 percent for foreign sales and active financial services income, in addition to the minimum tax rates noted above. There was also a one-time tax on the stock of unrepatriated profits, at an 8.75 percent rate on cash and equivalents and at a 3.5 percent rate on illiquid assets.

The plan would have also reformed the tax treatment of individual income by broadening the tax base and lowering the rates on individual income. It would have included a 10 and 25 percent rate bracket, with a 10 percent surtax on high-income

households (above $450,000 for married couples). The standard deduction, child credit, and the 10 percent bracket would have been phased out for high-income households. The plan would have repealed itemized deductions for state and local (non-business) taxes, medical expenses, personal exemptions, and the alternative minimum tax. In addition, it would have limited the mortgage interest deduction. Capital gains and dividends would have been taxed as normal individual income after a 40 percent exclusion.

The Diamond-Zodrow computable general equilibrium model was used to simulate the effects of TRA 2014. The model is structured so that consumers choose consumption, labor supply, and saving to maximize welfare over their lifetimes. The model includes 55 adult generations (intended to capture an adult's working life from age 23 to 78) alive at any point in time, and is thus typically described as an overlapping generations model. Firms choose labor demand and the time path of investment to maximize profits, subject to adjustment costs. The model includes five different production sectors, including a multinational corporation (MNC), a domestic corporation, a non-corporate (pass-through) firm, and owner-and rental-housing sectors. In addition, the corporate firms have a variable debt-to-equity ratio. The government uses corporate and personal income taxes to finance a fixed level of government services. The model must begin and end in a steady-state equilibrium with all key macroeconomic variables growing at an exogenous growth rate (which equals population plus productivity growth). The model is calibrated to roughly match the U.S. economy in a given base year.

The model includes domestic and foreign MNCs (parents and subsidiaries) with highly mobile firm-specific capital (FSK) that earns above-normal returns, and relatively immobile ordinary capital that earns normal returns. This approach follows Becker and Fuest (2011) who argue that differential capital mobility is an important part of modeling international capital flows. All of the multinational corporations—the U.S.–MNC parent firm and its foreign subsidiary, and the foreign-based RW–MNC parent firm and its U.S. subsidiary—are assumed to have analogous production functions. The modeling approach we utilize generally follows the approach for firm-specific capital developed by de Mooij and Devereux (2009) and Bettendorf, Devereux, van der Horst, Loretz, and de Mooij (2009). The MNC is assumed to own a unique firm-specific production input (FSK)—such as patents or other proprietary technology, brand names, or good will—coupled with unique managerial skills and knowledge of production processes, which allow it to permanently earn above-normal returns. This firm-specific factor is treated as "quasi-fixed," as it is assumed to be fixed in total supply in any given period, but this fixed amount can be reallocated across the United States and the rest of the world (ROW). The main role of this assumption is to determine the fraction of production using FSK that occurs in the United States relative to the rest of the world. The elasticity of the location of production that uses FSK (whether FSK is used in the U.S. or ROW) with respect to the tax rate differential is assumed to be 8.6, which is calculated from the assumption that the capital-share-weighted aggregate portfolio elasticity of all capital (both FSK and ordinary capital) is 3.0. The basic idea is that the location decision of where to use FSK is highly elastic with respect to the tax rate differentials, although we do phase in over time the reallocation of production involving FSK in response to changes in relative taxes. In addition, MNCs engage in income shifting that depends on the tax differential between the U.S. and ROW, including tax havens. MNCs must make a repatriation decision and are subject to a residual U.S. tax on repatriations. The model includes foreign trade, international capital mobility, and foreign ownership of domestic capital. Ordinary capital (capital that earns a normal rate of return) is disaggregated into structures, equipment, and inventories.

Table 1 shows the Diamond and Zodrow (2014) analysis of TRA 2014, which was prepared for the Business Round Table (BRT). The most important factor is the reduction in income shifting as the CIT rate declines. In addition, other important factors include the move to a territorial tax system, the more efficient allocation of the ordinary capital stock (K), and the reallocation of FSK (although this effect has a relatively small affect on the results).

Table 1: Diamond-Zodrow Analysis of Camp for BRT

Variable % Change in Year:	5	10	LR
GDP	1.2	2.2	3.1
Ordinary capital stock (K)	0.5	1.3	5.0
Firm-specific capital (FSK) stock	16.7	23.5	23.5
Reduction in income shifting (IS)	35.3	57.1	57.1
Labor supply (hours worked) (L)	0.5	0.3	0.3
CIT rate (%)	25.0	19.9	19.9

The DZ model includes differential capital mobility by having one capital good that is relatively immobile and another capital good that is assumed to be highly mobile. An important question is how this assumption affected the reported results. Table 2 shows the effects of adopting TRA 2014 under the assumption that all capital is relatively immobile (both capital goods have an elasticity of 0.5 with respect to the tax rate differential). In this case, GDP increases by 1.3 percent instead of 1.2 percent five years after reform, by 1.7 percent instead of 2.2 percent 10 years after reform, and by 3.0 percent instead of 3.1 percent in the long run. Without differential mobility, FSK increases by 0.6 percent five years after reform and 1.1 percent in the long run instead of 16.3 percent and 23.5 percent. The labor supply increase is slightly higher in this case. This demonstrates that the addition of FSK is not driving the results in the DZ analysis. Although the reallocation of FSK to the United States increases production of the good produced by the U.S. multinational, the GDP effects of this reallocation are offset by other factor reallocations, especially a return of ordinary capital to the rest of the world.

Table 2: Diamond-Zodrow Analysis of Camp with Immobile FSK

Variable % Change in Year:	5	10	LR
GDP	1.3	1.7	3.0
Ordinary capital stock (K)	1.0	1.9	5.1
Firm-specific capital (FSK) stock	0.6	1.1	1.1
Reduction in income shifting (IS)	35.4	57.6	56.9
Labor supply (hours worked) (L)	0.7	0.5	0.5
CIT rate (%)	24.9	17.9	18.0

By comparison, the Tax Foundation found much smaller results, with only a 0.2 percent increase in GDP in long run. The small size of its result is attributable primarily to a reduction in the capital stock of 0.2 percent as the cost of capital increases under TRA 2014. The Tax Foundation predicted that labor supply would increase by 0.5 percent. But, the Tax Foundation analysis discusses, then ignores, the benefits of reduced income shifting, the benefits of reallocation of firm-specific capital to the United States, and the benefits of moving to a territorial system. The DZ analysis included these factors in modeling the effects of the Camp proposal.

However, the DZ model can be used to find similar effects to those presented by the Tax Foundation. For example, using the DZ model and simulating the effects of a similar (the base broadeners are slightly different) CIT reform (but no individual income tax reform) while ignoring the three factors above produces significantly negative effects, with GDP down 1.7 percent in long run, and a CIT rate reduction to only 31.4 percent (reducing the rate to 25 percent would produce results more similar to the Tax Foundation results). In particular, this illustrates the significant impact on GDP of reversing income shifting and using the revenue gains from reform to further lower the corporate income tax rate.

There are several lessons that can be drawn from these simulations. First, a BBRR reform that repeals targeted investment incentives—such as eliminating accelerated depreciation or other incentives that affect investment at the margin—to finance rate reductions grants a windfall gain to existing capital by reducing the tax rate applied to such capital, with the windfall exacerbated by the existence of above-normal rates of return. The resulting increase in the cost of capital reduces investment and output, and makes it much less likely that a BBRR reform will result in positive macroeconomic effects in both the short and long run.

Second, the international considerations stressed above make it more likely that a BBRR reform will generate positive macroeconomic effects. A reduction in the

statutory corporate income tax rate will result in a reallocation of highly mobile firm-specific capital that earns above-normal returns to the United States—although this effect is offset to a significant extent by other general equilibrium effects, including the return of ordinary capital to the rest of the world and a reduction in labor supply. More importantly, a reduction in the statutory corporate income tax rate reverses some income shifting from the U.S., which provides a "free" source of revenue—effectively a CIT rate cut without the costs of base broadening—that significantly increases the benefits of a BBRR reform. In addition, the changes in trade that accompany a reversal of income shifting also have important effects, increasing net exports and thus output. Note, however, that the amount of income shifting in the initial equilibrium, as well as the extent of the reversal of this income shifting with a reduction in the CIT rate in the United States, are open to debate, and that the macroeconomic benefits of a BBRR reform would be significantly reduced if the extent to which income shifting is reversed with U.S. CIT rate cuts were smaller than assumed in the simulations.

Third, although the simulations indicate that the net macroeconomic effects of the particular territorial tax reform analyzed are positive, the gains from such a reform are fairly modest. This is not surprising: since the current worldwide tax system—which taxes foreign source income only when repatriated and allows foreign tax credits (including cross-crediting of taxes from high-tax countries against income from low-tax countries)—imposes a very low residual U.S. tax rate on repatriations, switching to a territorial system is likely to have relatively limited macroeconomic effects. However, this also implies that repealing deferral could lead to significant losses in output to the extent it adversely affects the U.S. MNCs ability to compete with foreign MNCs.

Finally, as noted above, the net effect of all these factors implies that the macroeconomic effects of a BBRR reform depend very much on both the details of the specific reform proposal and the context in which it is imposed. These results indicate that a BBRR reform is more likely to result in positive macroeconomic effects if (1) the initial amount of income shifting is large and is reduced significantly when the statutory CIT rate in the United States declines; (2) accelerated depreciation is retained instead of being used as a base broadening provision; and (3) the BBRR reform includes a move to a territorial system of the type analyzed in the report, that is, one that includes anti-base erosion provisions that are sufficiently effective that the tax sensitivities of international capital and income shifting are the same as prior to the enactment of the reform.

C. The President's Advisory Panel on Federal Tax Reform

The President's Advisory Panel on Federal Tax Reform (the Tax Panel) was charged with developing options for reforming the current federal income tax system that are simple, fair and pro-growth. This section discusses the economic growth effects of the three tax reform options discussed by the Tax Panel. The report showed that the largest increases in capital accumulation and economic growth were associated with the reforms that most resembled a move from an income to a consumption tax. This result is consistent with a wide body of previous research (Altig et al., 2001; Auerbach and Kotlikoff, 1987; Joint Committee on Taxation, 1997).

The Tax Panel's Progressive Consumption Tax (PCT) is a modified version of David Bradford's X-tax. The plan is a bifurcated subtraction-method VAT where labor compensation is deducted at the business level and taxed at the individual level at progressive rates of 15, 25, and 35 percent. All business investment is expensed and interest is not included nor deducted from the tax base. The PCT proposed reforming the mortgage interest deduction to a 15 percent tax credit for mortgage interest payments that was capped and nonrefundable.

The PCT was structured as a business cash flow tax and a tax on wages above the threshold of $115,000 for married couples at a statutory rate of 35 percent. The PCT provided subsidies to debt-financed owner-occupied housing (through the 15 percent mortgage interest credit). In general, the primary distinction between income-and consumption-based taxes is that under an income tax the normal return to capital is taxed, while under a consumption tax the normal return to capital is exempt from tax. In the case of the PCT, expensing of new business investment reduces the marginal effective tax rate on the normal rate of return to zero (since the value of the upfront deduction just equals the present value of tax paid on the normal return to the investment).

While the business cash flow tax effectively exempts the normal rate of return on new investments from taxation, it does impose a one-time tax on business capital existing at the time of reform to the extent that transition relief is not provided.

The PCT would have included transition relief for old capital of approximately $400 billion during the first four years after the enactment reform. The present value of the transitional depreciation deductions is approximately one-quarter of the value of future depreciation deductions under current law, which implies that the vast majority of existing business capital faces a one-time tax.

Adopting a consumption tax should lead to more saving and investment, and thus higher levels of output and consumption in the long run. The Panel reported that in the long-run the capital stock increased by 15.2 percent, national income increased by 4.0 percent, and consumption increased by 3.4 percent (all results are from a closed economy version of the DZ model and relative to initial baseline values). These results are similar to other results found in the literature. For example, using an OLG model, Altig et al. (2001) estimated that an X-tax would lead to a 6.4 percent long-run increase in national income and a 21 percent increase in the capital stock.

The Growth and Investment Tax (GIT) is similar to the PCT but includes an additional tax on interest, dividends and capital gains at a rate of 15 percent at the individual level. This allows for lower tax rates on business cash-flow and wages compared to the PCT. The plan also expands the opportunities to save in tax-preferred accounts. Given this, the marginal effective tax rate is only 5.2 percentage points higher under the GIT compared to the PCT because of the expanded savings accounts and the relatively low statutory tax rate on individual capital income. This implies that the growth effects for the GIT should be almost as large as those under the PCT. In this case, moving to full expensing of business investment encourages new investment and thus an increase in the size of the economy in the long run, which is mitigated slightly by the increase in taxation of capital income at the individual level. For example, the capital stock increases by 11.1 percent in the long run (using the OLG model)—this is about 70 percent of the growth in the capital stock under the PCT. The size of the economy is projected to increase by 3.3 percent in the long run.

The Tax Panel also recommended the Simplified Income Tax (SIT). The plan reduces the double taxation of corporate income by providing full dividend exclusion and 75 percent exclusion of capital gains on corporate stock. Other capital gains are taxed at ordinary rates. This reform called for a reduction in the corporate income tax rate to 31.5 percent and a reduction in the top individual income tax rate to 33 percent. The rate reductions were financed by broadening the individual and business tax bases. As in the GIT, tax preferred saving opportunities were also expanded. The plan also proposed a simplified system for depreciation allowances that would slow down the cost recovery for capital. The net effect was a 2 percentage point reduction in the effective marginal tax rate on capital income. This implies that the SIT would have limited effects on the size of the long-run capital stock and economic growth. For example, the capital stock is only 1.4 percent higher in the OLG model simulations, and the long-run increase in the size of the economy is 1.2 percent.

In the end, the Tax Panel did not recommend switching to a consumption-based tax system (such as the PCT); instead the Tax Panel recommended the GIT and SIT, even though the growth effects of the consumption-based tax were larger. However, given the fiscal challenges facing the United States it may be time to adopt a reform that maximizes the accumulation of capital and economic growth in the long run, especially if it can implemented in a manner that maintains distributional neutrality as argued for above.

D. Other Ambitious Reform Proposals

As mentioned in the introduction there are a number of other reform proposals other than those discussed above. For example, Auerbach (2010) proposes reforming the current corporate income tax system by allowing an immediate deduction for all new investment as a replacement for the current depreciation system and moving to a system that only taxes transactions that occur in the United States (i.e., a destination-based cash-flow tax). In addition, the proposal would allow for the symmetric treatment of debt and equity by including the proceeds of new debt in the tax base and excluding the repayment of debt. Auerbach argues that such a reform would reduce the most distortionary and complex problems with the current corporate tax system, increase progressivity, and increase output potentially by as much as 5 percent. He also argues that maintaining the current corporate tax system and reducing the tax rate, as proposed under a BBRR approach, "would leave in place all the flaws of the existing system," such as the tax bias favoring debt fi-

nance under the current income tax (which arises because interest on debt is deductible but dividends paid to shareholders are not).

Diamond and Zodrow (2011) propose that as part of the process of fundamental tax reform, serious consideration should be given to the implementation of an "allowance for corporate equity" or "ACE" that would result in roughly uniform treatment of debt and equity finance and lower the taxation of investment income at the business level to that associated with a consumption-based tax. This approach, which was recommended recently by the tax reform commission headed by Nobel Prize winning economist James Mirrlees in the United Kingdom and has been implemented successfully in a small number of countries, allows firms an extra deduction equal to the product of the book value of equity capital and a risk-free nominal interest rate. The economic effect of the ACE is to put debt and equity finance on an equal footing at the business level, as the ACE deduction for equity-financed investment is comparable to the deduction of interest expense for debt-financed investment. Moreover, the ACE approach can be applied to all businesses, perhaps with an exception for small firms, and thus would eliminate the current income tax bias against corporate entities.

There are certainly other proposals that are worthy of consideration as well.

V. CONCLUSION

Several recent reports on fixing our nation's fiscal crisis have focused attention on the need for fundamental reform of the corporate and personal income tax systems. While several factors seem to make the enactment of such a reform somewhat more difficult than in 1986, a sweeping reform of the tax system is well overdue. In my view, given the fiscal crisis facing the United States, fundamental reform must minimize the distortionary effects of taxation wherever feasible, seek to maximize long-run economic growth, and make simplicity a more important goal to achieve reductions in compliance and enforcement costs. While there are many proposals that are worthy of consideration, we must ultimately choose one. Macroeconomic analysis of various proposals and provisions should offer guidance in that process.

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QUESTIONS SUBMITTED FOR THE RECORD TO JOHN W. DIAMOND, PH.D.

QUESTIONS SUBMITTED BY HON. ORRIN G. HATCH

Question. Dr. Gravelle's testimony argues that ". . . it should not be surprising that a revenue neutral tax reform is unlikely to have a significant effect on output, given the necessity of base broadening to lower rates." In support of the argument, a study is cited that assessed the Tax Reform Act of 1986—or TRA86—and concluded, according to Dr. Gravelle's summary, that it "left incentives roughly unchanged." Given that, you wouldn't expect much in terms of growth effects from a revenue neutral reform exercise. Before getting to my question, I would note that the 1997 study in question does conclude that, at the time, ". . . saying that a decade of analysis has not taught us much about whether TRA86 was a good idea is not at all the same as saying it was not in fact a good idea. We think it was." Moreover, since that analysis, a Nobel Prize winning economist and his coauthor have provided evidence that tax reforms in 1986 coupled with changes in regulations governing retirement holdings help account for large long-run increases in corporate equity values relative to GDP, something that I would think is a positive for the economy and everyone with a retirement account. My question to the Panel is whether everyone agrees that it is "simply difficult, if not impossible" to design a revenue neutral tax reform plan that would have significant enough effects on incentives to increase economic growth?

Answer. While it is difficult to design a revenue neutral tax reform plan that has significant effects on economic growth, it is certainly not impossible.

We have to be careful in how we implement tax reform and this is one argument in favor of dynamic analysis. Consider a simple example. A common argument against dynamic analysis is to construct tax reforms proposals that have small overall effects on economic growth—usually because the proposals have opposing effects. However, this argument ignores the fact that showing that a proposal has no impact or a small impact is valuable information in the process of constructing tax reforms. Alternatively, think about proposals that have similar microeconomic scores but different macroeconomic effects. For example, consider one policy that raises capital gains and dividend tax rates and uses the revenue to increase the child tax credit. Compare this to a second policy which cut gains and dividend tax rates and finances the static revenue loss with a cut in the child tax credit. The microeconomic revenue impacts are similar for these two proposals except for some timing effects. However, in terms of efficiency and long run economic growth the second policy would dominate the first. This is supported by many studies, such as OECD (2008), JCT (2005), and Diamond and Viard (2008) which are referenced in my written testimony. While it is certainly true that some base-broadening, rate-reducing reforms may have negligible or even negative effects on economic growth, there are other proposals that would promote economic growth. Dynamic Analysis is a useful tool to examine the relative growth effects of various reform proposals.

Question. Dr. Diamond, you are an economist formerly on the staff of the Joint Committee on Taxation. I'm interested in your views on both conventional revenue estimates as well as estimates that reflect macroeconomic analysis. There seems to be a lot of confusion regarding the use of macroeconomic analysis of tax reform proposals. Dr. Diamond, my question is whether conventional, or static, revenue estimation is a more accurate measure for revenue estimates of tax reform proposals than macroeconomic analysis, which is sometimes referred to as dynamic estimating or scoring?

Answer. As illustrated by the example in my answer to the previous question, the answer depends on the proposal. If the proposal is structured to have minimal growth effects then microeconomic and macroeconomic scores should be relatively close. However, if a proposal increases or decreases economic growth the conventional and dynamic scores will diverge. This is important information and it should be used to make sure we adopt growth enhancing reforms to the extent it is politically feasible.

PREPARED STATEMENT OF JANE G. GRAVELLE, PH.D., SENIOR SPECIALIST IN ECONOMIC POLICY, CONGRESSIONAL RESEARCH SERVICE, LIBRARY OF CONGRESS

Mr. Chairman and Members of the Committee, I am Jane Gravelle, a Senior Specialist in Economic Policy at the Congressional Research Service of the Library of Congress. I would like to thank you for the invitation to appear before you today to discuss tax reform, growth and efficiency.

Economists distinguish between efficiency effects, the cost of distortions, sometimes referred to as deadweight losses, and growth effects, the increase or decrease in labor or capital due to tax changes. For example, if a marginal tax rate cut increases labor supply the growth effect is the value of additional output. The efficiency gain is the increased income minus the loss in the value of leisure or unpaid work (such as child care).[1] Thus the efficiency gain would be smaller than the growth effect. Some efficiency gains might not increase output or would have a negligible effect, such as the substitution of one type of capital investment or consumption item for another. They nevertheless increase well-being.

This testimony first discusses the magnitude of distortions arising from the income tax and identifies some specific areas of the tax code where efficiency gains might be achieved. It then discusses potential growth effects from both revenue neutral tax reform and tax cuts or increases.

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[1] The relationship between output effects and efficiency effects can change if average taxes are cut as well. Since increases in income decrease labor supply, if the average tax cut or the response to it is large enough, labor supply can be reduced, but an efficiency gain will remain.

EFFICIENCY GAINS FROM REDUCING TAX DISTORTIONS

It is first useful to review the economic literature on the cost of distortions in the in the income tax. Jorgenson and Yun,[2] using a dynamic growth model, estimated the total welfare cost of the income tax system as 2.4% of GDP, 0.6% due to the corporate income tax and 1.8% due to the individual income tax. For a variety of reasons, these estimates might be lower today.[3] Feldstein,[4] using a taxable income elasticity,[5] estimates the efficiency cost of individual income taxes at 2.4% of GDP. Subsequent studies of this elasticity have, however, found it much lower, yielding an estimate of the efficiency cost of the individual income tax of about 1% of GDP.[6]

These estimates, which reflect eliminating the income tax system and replacing it with a head tax (the only type of tax that produces no distortions), provide the upper limit on potential efficiency gains. Thus, it is unlikely that efficiency gains from tax reform, which can only capture part of those effects, will be very large.

There have also been some estimates, using dynamic models, of broad tax reforms such as replacing the income tax with a flat-rate broad-based income tax, consumption tax or wage tax. The latter two replacements eliminate the tax on capital income but increase the tax rate on labor income (especially in the move to a wage tax). The efficiency gains in these studies ranged from virtually zero to about 1% of GDP.[7]

While savings in compliance costs from simplification are not considered part of deadweight losses, it is reasonable to see those savings as an efficiency gain. A GAO study that reviewed estimates of compliance costs of the federal tax system, while noting the difficulty in measuring them, placed them at around 1% of GDP.[8] Uncertainty in the tax law also leads to less than optimal behavior, although the cost is not possible to quantify.

What changes might lead to a reduction in distortions that might be considered in the context of an income tax reform? Examining the major tax expenditures and potential for reform, four areas of revision are discussed. Note that while policies that might reduce distortions are discussed, CRS does not make policy recommendations and there are many other aspects to consider in a tax change.

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[2] Calculated from Dale W. Jorgenson and Kun-Young-Yun, *Investment: Lifting the Burden: Tax Reform, the Cost of Capital and U.S. Economic Growth,* MIT Press, Cambridge MA, pp. 287–288. They found their results difficult to compare to earlier studies but, in one case the estimates appear lower and in the other higher.

[3] Individual tax rates are lower than they were in the year of the study, which can be important because the deadweight loss rises with the square of the tax rate. In addition, the labor substitution elasticity (percentage change in labor supply divided by the percentage change in marginal wage) is generally lower today; Jorgenson and Yun had an elasticity 0.3, while the Joint Committee on Taxation uses elasticities in their in-house model of 0.1 and 0.2.

[4] Martin Feldstein, Tax Avoidance and the Deadweight Loss of the Income Tax, *The Review of Economics and Statistics,* Vol. 81, No. 4, November 1999, pp. 674–680.

[5] An elasticity is the percentage change in quantity divided by the percentage change in price. In this case, it is the percentage change in taxable income induced by a percentage change in tax rate.

[6] Congressional Budget Office, Recent Literature on Taxable Income Elasticities, by Seth H. Giertz, Technical Paper 2004–16, December, 2004. The central tendency of studies was 0.4, compared to an elasticity of 1.09 used in the Feldstein article. A subsequent review article found even smaller effects from central tendencies, while reviewing a range of associated issues. See Emmanuel Saez, Joel Slemrod and Seth H. Giertz, "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review," *Journal of Economic Literature,* Vol. 50, No. 1, March 2012, pp. 3–50.

[7] Jorgenson and Yun, op cit., found gains of 0.6% to 1.1% (p. 335). Two studies reported estimates in the Joint Committee on Taxation, *Tax Modeling Project and 1997 Tax Symposium Papers,* November 20, 1997, JCS–21–97. Diane Lim Rogers, "Assessing the Effects of Fundamental Tax Reform with the Fullerton-Rogers General Equilibrium Model," pp.81–82 found that a move to a proportional comprehensive income tax, would have welfare gains 0.05 to 0.7%, moving to a consumption tax would have gains of 0.06 to 1.0%, and moving to a wage tax, gains of 0.2% to 1%. Dale W. Jorgenson and Peter J. Wilcoxin, "The Effects of Fundamental Tax Reform and the Feasibility of Dynamic Revenue Estimation," p. 135, found gains that were essentially zero. For the document, see

https://www.jct.gov/publications.html?func=startdown&id=2940.

Jane G. Gravelle, "Income Consumption and Wage Taxation in a Life-Cycle Model: Separating Efficiency from Redistribution," *American Economic Review,* Vol. 81, No. 4, September, 1991, pp. 985–995, found a gain of 0.4% for movement to a consumption tax and 0.15% for movement to a wage tax. This model, however, included a single uniform tax rate on capital income and thus did not capture gains from the reallocation of capital assets.

[8] GAO, Summary of Estimates of the Costs of the Federal Tax System, GAO–05–878, August 26, 2005, *http://www.gao.gov/products/GAO-05-878.*

Reducing Differentials in Returns to Investment

Returns to investment are differentially taxed by the income tax system based on the source of the return.[9] Owner-occupied housing is favored and subject to negligible or negative tax rates due to the exclusion of imputed rent and the deduction for mortgage interest and property taxes. The corporate sector is taxed more heavily than the noncorporate sector, but within the corporate sector debt-financed investment is also taxed at zero or negative rates, while the highest rates (around 35%) apply to corporate equity investments.

Within each industry different assets are taxed at different rates. Considering the corporate level tax on equity investment, which captures the effects of depreciation, buildings are taxed at close to statutory rates (35%) and residential buildings are taxed at somewhat lower rates, while equipment rates average around 75% of the statutory rate (26%). These differences arise from more favorable depreciation allowances for equipment. Bonus depreciation, which has expired, has lowered the tax rate for an investment in equity to 15% for the past seven years.[10] Certain industries, largely manufacturing, are favored over others due to the production activities deduction.[11] The extractive industries are also favored because of generous treatment of investments through expensing.

Some items that appear as tax expenditures may reduce distortions or be relatively neutral. For example, the favorable treatment of pension and retirement earnings, to the extent they are invested in corporate stock, reduce the tax on corporate equity and bring effective tax rates closer to those on owner-occupied housing and non-corporate investment. Investment in research and development, which is favored compared to other assets (because of expensing and, if made permanent, the research and experimentation credit), is often considered to be an appropriate target of tax benefits.[12] That is, an economy may underinvest in research because firms do not capture the full social benefits of their investments.[13] Lower taxes on the return to investment in advertising, another intangible, is, however, not justified on the same grounds.

Jorgenson and Yun also made estimates of the efficiency gains from eliminating certain asset distortions.[14] For differentials between assets (such as equipment and structures) within sectors, they estimated an efficiency gain of 0.1% of GDP. For eliminating the intersectoral distortion between corporate and non-corporate business, they estimated a gain of 0.02% of GDP. For eliminating the entire intersectoral distortion, which would include owner-occupied housing, they estimated a gain of 0.8% of GDP.

Gravelle estimated the cost of corporate tax distortions to be about 10% to 15% of corporate tax revenue, or about 0.3% of GDP, with about a third (0.1%) due to the debt-equity distortion and the remainder largely due to the distortion between corporate and all other investment.[15] These amounts would be expected to be lower than the Jorgenson and Yun study because of the lower rates on corporate dividends and capital gains enacted in 1997 and 2003. Also this estimate does not capture the distortion between owner-occupied and non-corporate capital or distortions across assets. Neither the Jorgenson and Yun nor the Gravelle estimates include the effects of the production activities deduction.

While the full set of changes that would eliminate these distortions is probably beyond the scope of a tax reform, there are some practical changes in a revenue-neutral tax reform that could capture some of these effects. These include disallowing part of the deduction for corporate interest, repealing or otherwise limiting

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[9] For tax rates see *Corporate Tax Reform: Issues for Congress,* CRS Report RL34229, by Jane G. Gravelle and Congressional Budget Office, *Taxing Capital Income: Effective Marginal Tax Rates Under 2014 Law and Selected Policy Options,* December 2014, *https://www.cbo.gov/publication/49817.*

[10] See *Bonus Depreciation: Economic and Budgetary Issues,* CRS Report R43432, by Jane G. Gravelle.

[11] For a review of this provision see *The Section 199 Production Activities Deduction: Background and Analysis,* by Molly F. Sherlock, CRS Report R41988.

[12] For an overview of the credit see *Research Tax Credit: Current Law and Policy Issues for the 114th Congress,* CRS Report RL31181, by Gary Guenther; Joseph J. Cordes, "Research and Experimentation Credit," in the Encyclopedia of Taxation and Tax Policy, ed. Joseph J. Cordes, Robert D. Ebel, and Jane G. Gravelle, Washington D.C., The Urban Institute, 2005.

[13] See John C. Williams and Charles I. Jones, "Measuring the Social Return to R&D," *Quarterly Journal of Economics,* vol. 113, no. 4, November 1998, pp. 1,119–1,135 for a review of the evidence showing the high social rates of return to research.

[14] Jorgenson and Yun, op. cit., p. 277.

[15] *Corporate Tax Reform: Issues for Congress,* CRS Report RL34229, by Jane G. Gravelle.

the production activities deduction, and slowing depreciation and cost recovery in the extractive industries, while using these revenue gains to reduce the corporate rate. There are a number of smaller but significant provisions that favor certain types of investment such as the exemption of like-kind exchanges from the capital gains tax, exclusion of interest on private activity bonds, and deferral of gain in non-dealer installment sales, where repeal would also yield revenue for corporate rate reduction. Note, however, that slowing depreciation for equipment, while achieving greater neutrality, may also raise the cost of capital if exchanged for a rate reduction, since a corporate rate reduction produces a windfall for the return on existing capital.

In the individual tax system, repealing the deduction for property taxes and capping, otherwise limiting, or repealing the mortgage interest deduction would reduce (although not eliminate) the favorable treatment of owner occupied housing. Changes that appear relatively unrelated (such as eliminating the deduction for state and local income taxes and increasing the standard deduction), as was proposed in former Chairman of the Ways and Means Committee Dave Camp's tax reform proposal, H.R. 1, 113th Congress, would help to reduce this distortion by reducing the number of itemizers.

Exclusion of Employer Subsidies for Health Care

Among the major items in individual tax expenditures is the exclusion of employer provided health benefits from employee's income. Calculations suggest that the efficiency cost of subsidizing health insurance and health spending might be about 0.02% of GDP.[16] The Cadillac tax, enacted as part of the Affordable Care Act and scheduled to go into effect in 2018 will reduce this distortion. Further reduction could be achieved by lowering the level at which the tax applies. Another option to consider is to eliminate the benefits for cafeteria plans which may largely be used to exclude the employee's portion of health insurance.

While a straightforward calculation of welfare costs can produce a value, caution is suggested in interpreting these measures, since so many complications in the health market make it different from ordinary markets. Nevertheless, it is likely that reducing spending on very generous health insurance would increase efficiency.

Itemized Deduction for Charitable Contributions

The main individual tax expenditure not already mentioned that affects behavior is the deduction for charitable contributions.[17] Applying the same methodology used for health insurance but with different parameters yields an estimate of 0.03% of GDP.[18] Subsidies for charitable giving, however, may increase rather than decrease efficiency. The level of private charitable contributions is generally assumed to be underprovided because individuals can "free-ride" on others for funding charitable objectives such as low-income assistance, education, medical research, and hospitals. At the same time, an argument can be made that the induced contributions from the revenue loss are likely smaller than the loss itself[19] and these objectives could also be addressed by additional government spending.

[16] The deadweight loss is approximately the triangle in a supply and demand curve intersection that is ½ the change in quantity times the change in price. The rule of thumb formula for the deadweight loss as a percent of spending is $\frac{1}{2}E(t^2)$, where E is the elasticity and t is the tax rate. The elasticity is assumed to be -0.2. See Su Liu and Deborah Chollet, *Price and Income Elasticity of the Demand for Health Insurance and Health Care Services: A Critical Review of the Literature,* Mathematica Policy Research, Inc., March 24, 2006, at *http://www.mathematica-mpr.com/publications/pdfs/priceincome.pdf.* The assumed tax rate is 25%. To determine current spending on health insurance, C^*, divide the tax expenditure for FY2014 of $143 billion by 0.25, which yields $572 billion. Rather than use the formula which technically applies only to a small change, the calculation used a discrete changed based on a constant elasticity of substitution formula $C= A((1-t))^{-E}$. That result yielded $540 billion, and a change in quantity of $32 billion. Multiplying this amount by the tax and by ½ yields $8 billion, which, divided by GDP of $17 trillion is 0.02%.

[17] Other provisions in the ten largest individual tax expenditures not already addressed are largely motivated by distributional objectives: the earned income credit, the child credit, and the exclusion of Social Security benefits.

[18] Although the size of the tax expenditure was smaller than the health exclusion, the elasticity was assumed to be larger, at 0.5. See *Charitable Contributions: The Itemized Deduction Cap and Other FY2011 Budget Options* by Jane G. Gravelle and Donald Marples, CRS Report R40518 for a review of the empirical evidence on elasticities. The estimate also assumed a higher tax rate of 35% given the concentration of giving in high income classes.

[19] If the elasticity is less than one, the induced spending will be smaller than the reduced taxes.

There may be more limited changes outside of repealing the deduction, such as allowing only the basis of appreciated property to be deducted (or imposing a capital gains tax at the time of gift), imposing a floor on the deduction, or requiring payouts for certain institutions that hold charitable contributions without distributing them that might enhance the efficiency of the tax provision.

International Tax Issues

The largest corporate tax expenditure is the deferral of tax on income from foreign corporations. This provision is probably not associated with a significant economic distortion. Evidence suggests that, in most cases, the areas where real investment is likely to be made, the developed countries, tend to have marginal effective tax rates that are relatively similar to those in the United States.[20] While deferral may cause a misallocation of capital, that effect is likely to be relatively small compared to GDP. It is more likely, especially given the dramatic concentration and growth in profits abroad in tax havens,[21] that this tax expenditure is reflective of profit shifting that largely affects revenues rather than the physical location of investment.

Repatriation of income held overseas does trigger a repatriation tax, although economic analysis has not settled on the importance, or even existence, of that distortion and it has not been measured.[22] The repatriation tax could be eliminated by moving to a territorial tax, eliminating deferral and taxing all income currently, or imposing a current tax at a lower rate. All are proposals that have been made, although repealing deferral would yield enough revenues to reduce the corporate tax rate by three percentage points. Such a change might need to be accompanied by a provision to further restrict corporate inversions. A fully territorial tax might worsen the profit shifting problem and additional anti-abuse provisions may be needed.

A Note on Labor Supply and Savings

A revenue-neutral tax reform is unlikely to have much effect on the overall distortions in labor supply (or, rather, a distortion between consumption and leisure) or savings (a distortion between present and future consumption). As an illustration, consider the recent proposal by former Chairman of the Ways and Means Committee Dave Camp. Although rates, particularly the corporate tax rate, were cut, the overall effective tax rate on the return to savings, once provisions are phased in, is slightly increased, and the capital stock falls according to analysis by the Joint Committee on Taxation (JCT).[23] Base broadening provisions such as slower depreciation, other capital cost recovery changes, and the elimination of the production activities deduction increased the tax base and more than offset the rate cuts.

With respect to labor supply, although the marginal tax on labor income was reduced about four percentage points, the effect on distortions is small, estimated at 0.02% of GDP.[24] This small effect is partly due to the small effect of the proposal on tax rates and partly due to the small size of the behavioral response. It might also be somewhat overstated because some base broadening provisions, which were not incorporated, increase the marginal tax rate (such as the disallowance of a deduction for state and local income taxes).

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[20] See *International Corporate Tax Rate Comparisons and Policy Implications.,* CRS Report R41743, byJane G. Gravelle.

[21] *Tax Havens: International Tax Avoidance and Evasion,* CRS Report R40623, by Jane G. Gravelle, Senior Specialist in Economic Policy, and Gabriel Zucman, "Taxing across Borders: Tracking Personal Wealth and Corporate Profits," *Journal of Economic Perspectives,* Vol. 28, No. 4, Fall 2014, pp. 121–148.

[22] For a review of the literature on repatriations see *Moving to a Territorial Income Tax: Options and Challenges,* CRS Report R42624, by Jane G. Gravelle.

[23] Joint Committee on Taxation, Macroeconomic Analysis of the "Tax Reform Act of 2014," JCX–22–14, February 26, 2014,
https://www.jct.gov/publications.html?func=startdown&id=4564.

[24] The results from the overlapping generation model used by JCT, which does not allow income effects, can be used to determine the percentage change in the marginal wage. In that model the labor substitution elasticity (percentage change in labor supply divided by percentage change in marginal wage) is 0.24 and the effect on labor supply is 1.3%. Thus the percentage change in wage is 1.3/0.24, or 5.41%. Since the percentage change in wage is the change in tax divided by one minus the tax rate, the rate change, assuming a marginal tax rate of 25%, is 4 percentage points (0.75 times 0.0541). The excess burden, using a 0.2 elasticity which is the higher elasticity in the JCT's in-house model is (½) times 0.2 times $(0.0541)^2$, and multiplied by labor's share of income of approximately two-thirds, is 0.02% of GDP. At the lower elasticity of 0.01, it is 0.01% of GDP.

Because of the constraints on revenue neutral tax reform, it is difficult to achieve significant efficiency gains for the basic distortions (in labor supply and saving) in imposing any income tax.

EFFECTS ON GROWTH

The effects of a tax reform on economic growth depend on whether the tax reform is revenue neutral (especially in the longer run) or also raises or loses revenue.[25] It is easiest to explain the expected effects on growth by beginning with a simple tax cut, and then proceeding to the effect of a revenue neutral proposal.[26]

Three types of effects may influence the output effects of a tax change: (1) the short run demand side stimulus effect, (2) the crowding-out effect, where the increase or decrease in the deficit reduces or increases funds available for investment, and (3) supply side effects, where labor supply and savings respond to changes in tax rates. Demand stimulus effects from a tax cut or tax increase are transitory. The crowding out (or in) effect happens gradually over time but grows continually. Supply side effects are typically primarily due to labor supply in the budget horizon as capital takes some time to accumulate or decline (unless investment flows in or out from abroad).

The magnitude of the stimulus effect from a tax cut is uncertain. If the Federal Reserve is targeting inflation and interest rates, it may take actions to offset the stimulus effect. As a result the JCT typically reports two effects: one where the Fed takes no action and a demand side effect occurs, and another where the Fed offsets the stimulus. They also generally consider two measures of the labor substitution elasticity: 0.2 and 0.1. That is the elasticity that measures the response to the marginal wage, and therefore to the marginal effective tax rate.

To illustrate how these effects work, consider a simulation that the Joint Committee on Taxation prepared in 2005 of a $500 billion ten-year tax cut (a tax cut of about 0.3% of GDP) using their in-house macroeconomic general equilibrium mode (MEG).[27] First, consider the effect where the Federal Reserve takes no action. A cut in individual rates increases output by 0.1% of GDP in the first five years. In the second five years output increases by 0.1% of GDP in the high elasticity case and by 0.0% in the low elasticity case. By the long run (30 years) the tax cut has reduced output of 0.5% and 0.6% respectively. Thus the crowding out effect eventually overwhelms the supply side effect as the horizon lengthens. When stimulus effects are included the effects are larger during the budget horizon (by 0.2 to 0.4 percent) but the effects are still to reduce output (by 0.2% and 0.3% of GDP) by 30 years. The fiscal offset delayed the effects of crowding out but did not eliminate them. These negative effects will continue to grow.

For a corporate rate reduction, output increases by 0.1% in the first five years and 0.2% in the second five years, but is zero after 30 years without stimulus effects. With stimulus effects the results are larger by about 0.2% and still positive after 30 years, but decreasing.

For a tax cut, the crowding out effect dominates eventually because it continues to grow indefinitely as long as the tax cut that loses revenue is in place. A tax increase would have the opposite effect: it would produce some contraction in the short run, but would eventually increase output.

For a truly revenue neutral tax change the stimulus effects and crowding out effects should be minimal. In that case, the effects are largely due to supply side effects. To illustrate the magnitude of these effects consider the JCT's analysis with their in house model of former Ways and Means Chairman Dave Camp's tax proposal.[28] In that simulation, with no stimulus effects, the effect on GDP through a

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[25] Note that growth effects are a one-time change in output and not a change in the growth rate. The growth rate is determined by factors such as technological advance, labor productivity growth, and the growth in the labor force.

[26] For a detailed review of macroeconomic modeling see *Dynamic Scoring for Tax Legislation: A Review of Models,* CRS Report R43381, by Jane G. Gravelle.

[27] Joint Committee on Taxation, Macroeconomic Analysis of Various Proposals to Provide $500 Billion in Tax Relief, JCX–4–05, March 1, 2005, *https://www.jct.gov/publications.html?func=startdown&id=1189.*

[28] Joint Committee on Taxation, Macroeconomic Analysis of the "Tax Reform Act of 2014," JCX–22–14, February 26, 2014, *https://www.jct.gov/publications.html?func=startdown&id=4564.* JCT found larger effects, of around 1.5% of output when using an alternative overlapping generation (OLG) model. This

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labor supply effect over the first ten years was 0.1% with the low elasticity and 0.2% with the high elasticity. There was, surprisingly, a stimulus effect of about 0.3% when it was permitted, which may have been because the proposal reduces labor income taxes. No long run estimates were provided, but it is likely that the Camp proposal loses significant revenue in the long run and would eventually cause a reduction in output.[29]

The supply side effects in the analysis of the Camp proposal may have been somewhat overstated. The JCT analysis captured the direct statutory tax rate changes as well as the implicit tax increases from phase outs. It also accounted for increases in the marginal tax burden due to base broadening, such as the slowing of depreciation. It, however, did not account for the effect of base broadening on effective marginal tax rates on labor income. For example, disallowing the deduction for state and local taxes would increase the marginal tax burden on labor income for itemizers. Other base broadening changes may be marginal as well. A number of analysts have commented on the importance of considering the effects of base broadening on marginal effective tax rates and in some cases have questioned whether any revenue neutral tax reform could have significant supply side effects.[30]

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model cannot permit either crowding out or stimulus effects. About half the difference between the effects in this model and the MEG model is a larger increase in the labor supply response in the OLG model and the remainder to a new aspect of the OLG model that treats the shift in the ownership of intangible assets (e.g., patents and copyrights) due to changes in corporate taxes as having real effects on output. This innovation has been used in a European model without explanation or justification. See Michael P. Devereux and Ruud de Mooij in "An Applied Analysis of ACE and CBIT Reforms in the EU," International Tax and Public Finance, vol. 18, no. 1, 2011, pp. 93–120 and Leon Battendorf, Michael P. Devereux, Albert van der Horst, Simon Loretz and Ruud de Mooij, "Corporate Tax Harmonization in the EU," Economic Policy, vol. 63, 2010, 537–590. The authors do not present any empirical evidence to support entering what they refer to as firm-specific capital into the production function, or the importance of it in the economy. Since intangible assets can already be used costlessly in every location, there is no reason that a shift in ownership of an intangible should have an output effect. That is, the location of ownership should not change productivity. This point has been also been made by William McBride, Some Questions Regarding the Diamond and Zodrow Modeling of Camp's Tax Plan, Tax Foundation, March 17, 2014, *http://taxfoundation.org/blog/some-questions-regarding-diamond-and-zodrow-modeling-camps-tax-plan*. The larger labor supply response is in small part due to a larger substitution elasticity, but largely more likely explained by the constraints of the OLG model and how it is closed, since it cannot permit offsetting labor income effects and treats each generation as represented by a single individual. The OLG model cannot be used to model a stand-alone tax change because it cannot be solved with long run changes in deficits.

[29] This longer run revenue loss has been widely discussed. See Leonard Burman, "Hidden Taxes in the Camp Proposal," February 27, 2014, *http://taxvox.taxpolicycenter.org/2014/02/27/hidden-taxes-in-the-camp-proposal/;* Robert S. McIntyre, "Camp Is Hiding the True Effects of His Tax Plan," Tax Notes, April 27, 2014, pp. 91–93, who calculates the effects for the second decade of the Camp plan, finding an average of $170 billion in losses per year (which would be roughly at 2028 levels of income); Joseph Rosenberg, "How Does Dave Camp Pay for Individual Tax Cuts? By Raising Revenue from Corporations," Urban-Brookings Tax Policy Center, February 27, 2014, *http://taxvox.taxpolicycenter.org/2014/02/27/how-does-dave-camp-pay-for-individual-tax-cuts-by-raising-revenue-from-corporations/;* Chye-Ching Huang, "Camp Tax Reform Plan Likely Means Bigger Deficits After First Decade," Citizens for Budget Policies and Priorities, February 26, 2014, *http://www.offthechartsblog.org/camp-tax-reform-plan-likely-means-bigger-deficits-after-first-decade/;* Committee for a Responsible Federal Budget, "Revenue Impacts of Camp's Tax Reform Proposal," February 26, 2014, *http://crfb.org/blogs/revenue-impacts-camps-tax-reform-proposal;* statement of John S. Buckley in U.S. Congress, Senate Committee on the Budget, Supporting Broad-Based Economic Growth and Fiscal Responsibility Through a Fairer Tax Code, April 8, 2014, *http://www.budget.senate.gov/democratic/public/index.cfm/hearings?ID=d7254a33-dbd4-44c1-9fcc-7ea85f803f5e,* which discusses the transitory effects of a number of business provisions; Jane Gravelle, The Dynamics of Congressional Policy-Making, in United States Senate, Committee on Rules and Administration, The Evolving Congress, S. Prt. 113–30, December 2014, pp. 457–478.

[30] Alex Brill and Alan Viard, The Benefits and Limits of Income Tax Reform, AER Tax Policy Outlook, No. 2, September 2011, *http://www.aei.org/wp-content/uploads/2011/10/TPO-Sept-2011.pdf.* For further discussion of the issues of base broadening and marginal effective rates see Jane G. Gravelle and G. Thomas Woodward, Clarifying the Relation Between Base-Broadening and Effective Marginal Tax Rates, by Jane G. Gravelle and G. Thomas Woodward, presented at the 2013 meetings of the National Tax Association; Congressional Budget Office, Analysis of the President's Budgetary Proposals for 2008, Publication 2908. March 2007; and Restrictions on Itemized Tax Deductions: Policy Options and Analysis, CRS Report R43079, by Jane G. Gravelle and Sean Lowry. With respect to corporate reform and base broadening, see Alan Viard, The Quickest Way to Wreck Corporate Tax Reform, *Real Clear Markets,* March 27, 2013, *http://www.realclearmarkets.com/articles/2013/03/27/the_quickest_way_to_wreck_corporate_tax_reform_100226.html.*

It should not be surprising that a revenue neutral tax reform is unlikely to have a significant effect on output, given the necessity of base broadening to lower rates. Alan Auerbach and Joel Slemrod, for example, found that the Tax Reform Act of 1986, a widely hailed tax reform, left incentives roughly unchanged.[31] It is simply difficult, if not impossible, to design such a reform, especially if the reform is also pursuing other goals such as distributional neutrality and simplicity. Many economists see the primary goals of tax reform as achieving equity, efficiency and simplicity, rather than growth.

QUESTIONS SUBMITTED FOR THE RECORD TO JANE G. GRAVELLE, PH.D.

QUESTIONS SUBMITTED BY HON. ORRIN G. HATCH

This memorandum responds to follow-up questions related to the testimony of Jane Gravelle before the Senate Finance Committee on February 24, 2015.

CRS does not provide policy recommendations. As such, CRS does not take a position on whether dynamic scoring should be used by the Joint Committee on Taxation (JCT) or Congressional Budget Office (CBO) for scorekeeping or budget enforcement purposes. Further, CRS does not take a position on which macroeconomic models should be used by those required by statute to provide cost or revenue estimates, or economic or budget projections. Nor does CRS take a position on whether tax reform in general, or any particular tax revision, should be enacted, or on whether fiscal stimulus should be used in an underemployed economy.

Question. Your testimony argues that ". . . it should not be surprising that a revenue neutral tax reform is unlikely to have a significant effect on output, given the necessity of base broadening to lower rates." In support of the argument, a study is cited that assessed the Tax Reform Act of 1986—or TRA86—and concluded, according to your summary, that it "left incentives roughly unchanged." Given that, you wouldn't expect much in terms of growth effects from a revenue neutral reform exercise. Before getting to my question, I would note that the 1997 study in question does conclude that, at the time, ". . . saying that a decade of analysis has not taught us much about whether TRA86 was a good idea is not at all the same as saying it was not in fact a good idea. We think it was." Moreover, since that analysis, a Nobel Prize winning economist and his coauthor have provided evidence that tax reforms in 1986 coupled with changes in regulations governing retirement holdings help account for large long-run increases in corporate equity values relative to GDP, something that I would think is a positive for the economy and everyone with a retirement account. My question is whether you agree that it is "simply difficult, if not impossible" to design a revenue neutral tax reform plan that would have significant enough effects on incentives to increase economic growth?

Answer. Designing a revenue-neutral corporate tax reform that has positive effects on output is difficult unless foreign source income is taxed more heavily. Designing an individual tax reform to produce significant output effects that also aims for distributional neutrality, as recent reform proposals have, is also challenging.

The base broadening provisions in the corporate tax that could be used to finance a rate cut (setting aside international tax provisions) can be gleaned from many sources such as the tax expenditure list and prior proposed legislation. Potential provisions might include slower depreciation rates for equipment, eliminating the production activities deduction, capitalizing and depreciating research and development and advertising expenses, disallowing a portion of corporate interest, and eliminating Last-in, First-out (LIFO) inventory accounting. These base broadening provisions increase the cost of capital, offsetting, or more than offsetting, the benefits of rate reduction. For example, a revenue-neutral substitution of slower depreciation for a rate cut will increase the cost of capital because the depreciation change applies to new investment, but the rate cut also applies to the return on existing capital.[1]

[31] See "The Economic Effects of the Tax Reform Act of 1986," *Journal of Economic Literature,* Vol. 35, No. 2, June 1997, pp. 589–632. Alan Viard, in "Statutory and Effective Tax Rates: Part 1," *Tax Notes,* August 20, 2012, pp. 943–947; and Bruce Bartlett, Misunderstanding Tax Expenditures and Tax Rates, *Tax Notes,* November 22, 2010, pp. 931–932, also make the general point that revenue neutral tax reform is unlikely to alter work incentives.

[1] The limited and possibly negative growth effects of financing a corporate rate reduction by eliminating provisions that affect marginal incentives is discussed in Nicholas Bull, Tim Dowd,

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A reform that imposed higher taxes on foreign source income, which could be used to reduce the corporate tax by up to three percentage points, would reduce the cost of capital in the United States and increase it abroad slightly. However, because the corporate tax is so small as a share of the U.S. economy (about 2%), even large changes in the tax rate would have limited effects on the economy. In CRS Report R41743, *International Corporate Tax Rate Comparisons and Policy Implications,* by Jane G. Gravelle, reducing the corporate rate by ten percentage points is estimated to raise output, by attracting capital from abroad, by about 0.2%, suggesting that a three percentage point reduction would increase output by an estimated 0.06%.

Using individual income tax reform to increase economic growth also faces significant challenges. To induce growth, a revenue neutral tax reform should cut effective marginal tax rates (which encourage work) without cutting average rates. Eliminating many of the tax preferences would affect marginal effective tax rates. For example, eliminating the deduction for state and local taxes would increase the effective tax rate on labor income and income from saving by increasing the share of income that is taxed, offsetting the statutory rate reduction. In former Ways and Means Chairman Dave Camp's 2014 proposal, this option, along with some other restrictions and an increase in the standard deduction caused the expected share of taxpayers that itemized to decrease substantially. This outcome may be desirable for other reasons, but it increases the share of income that is taxed (through not only loss of state and local tax deductions but also deductions for charitable contributions and mortgage interest). See CRS Report R43079, *Restrictions on Itemized Tax Deductions: Policy Options and Analysis,* by Jane G. Gravelle and Sean Lowry, for a discussion of marginal effects of restricting itemized deductions.

The Joint Committee on Taxation (JCT) estimated the effect of former Chairman Camp's tax reform proposal at 0.1% to 0.2% of GDP based on supply-side effects.[2] Our understanding is that JCT did not take into account some marginal effects of individual base broadening, such as eliminating the deduction for state and local taxes.[3] If some marginal effects were not considered, incorporating them would lead to smaller growth effects.

Some base broadening approaches might be less likely to have marginal effects, such as imposing percentage of income floors on itemized deductions. If the objective of tax reform is to eliminate distortions, floors would be less effective than ceilings or repeal of a deduction in reducing the tax incentive to spend on the tax-favored activity. Some floors on itemized deductions are already in place, (e.g., medical expenses and casualty losses) and a floor has been proposed for charitable deductions.

Note that tax reforms that reduce revenue may induce supply-side responses, but these effects would be offset eventually by the negative effects of crowding out of private investment through increased deficits.

Question. Dr. Gravelle, your testimony states, with respect to deferral of tax on income from foreign corporations, that "This provision is probably not associated with a significant economic distortion. Evidence suggests that, in most cases, the areas where real investment is likely to be made, the developed countries tend to have marginal effective tax rates that are relatively similar to those in the United States. While deferral may cause a misallocation of capital, that effect is more likely to be relatively small compared to GDP." Dr. Gravelle, given that it is CRS's reading of the evidence that deferral is not a significant distortion and, to the extent it causes misallocated capital, the effect is small, it seems fair to conclude that a shift to a fully territorial tax with adequate base erosion provisions would be, at worst, relatively harmless.

Given the Congressional Research Service's reading of the evidence that deferral is not a significant distortion and, to the extent it causes misallocated capital, the effect is small, it seems fair to conclude that a shift to a fully territorial tax with adequate base erosion provisions would be, at worst, relatively harmless. Do you agree?

Answer. Given the closeness of effective tax rates, it seems unlikely that territorial taxation (or ending deferral for that matter) would have much effect on the

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and Pamela Moomau, "Corporate Tax Reform: A Macroeconomic Perspective," *National Tax Journal,* Vol. 64, no. 4, December, 2011, pp. 923–941.

[2] JCT, Macroeconomic Analysis of the "Tax Reform Act of 2014," JCX–22–14, February 26, 2014, *https://www.jct.gov/publications.html?func=startdown&id=4564.*

[3] Based on a statement by Nicholas Bull, Joint Committee on Taxation, at a panel discussion on dynamic scoring, Brookings Institution, January 26, 2015. He indicated that research underway indicated that the effects were small but the research has not been completed.

allocation of capital investment. Territorial taxation would increase the incentive for profit shifting and its effect on corporate revenue, but this consequence could be avoided by adequate base erosion provisions. Addressing profit shifting through leveraging is straightforward: allowing interest deductions that are proportional to earnings in each country. Designing an effective system (outside of current taxation of foreign source income) that prevents the shifting of intangible income through transfer pricing, however, is more difficult.

Question. In a January 6, 2014 Congressional Research Paper, you identified in Table 3 of the paper the following "Table 3 reports the Markle and Shackelford study that estimates the effective tax rate of domestic firms in different countries. Because a smaller number of countries are examined, Table 3 compares the U.S. rate with that of the six large countries." It is not clear what is meant by "a smaller number of countries are examined." Smaller than what; examined by whom?

Answer. This statement referred to the previous results, primarily in Table 1 which included the Organization for Economic Development and Cooperation (OECD) member states. The Markle and Shackelford paper reported rates for fourteen countries other than the United States, but only six are large countries, five could be considered tax havens, and three are small countries.

Question. The figures in Table 3 of your January 6, 2014 paper are for "Six Large Countries" taken to be Canada, France, Germany, India, Japan, and the United Kingdom, with the source listed as Kevin S. Markle and Douglas A. Shackelford, "Cross-Country Comparisons of Corporate Income Taxes," working paper, February 2011. Those authors, using data on more than the six countries that you choose, conclude that "Japanese multinationals consistently face the highest ETRs. American multinationals face among the next highest ETRs." Using the six countries that you choose, my staff has not been able to replicate the numbers that you report in your Table 3, so please provide the data that you used. Please also explain why you chose to only look at six of the many countries considered by Markle and Shackelford, and why you selected the particular countries that you chose to include.

Answer. The figures in Table 3 have been revisited. The rate for Canada has been revised (29.5% previously, compared to 14% as revised). Australia at 22% was also included and the weighted and unweighted numbers in Table 3 in the report were inadvertently reversed. Correcting the Canadian rate and excluding Australia produces an unweighted tax rate of 22.3% and a weighted rate of 25.1%, compared to previous numbers of 24.5% and 26.2%. These numbers have been corrected in a technical update of the report.[4]

Markle and Shackelford did not have a random sample of countries or one defined by a particular standard (such as the OECD), and the larger countries that are more likely to be targets for investment (Canada, France, Germany India, Japan and the UK) were included. Countries that are considered to be tax havens (Bermuda, the Cayman Islands, Taiwan, Malaysia, and Switzerland) and the three small economies (Australia, Sweden, and South Africa) were excluded, as they are not likely targets for significant investment.

Question. The Congressional Research Service (CRS), takes a dim view of the use of macroeconomic analysis of major tax proposals, arguing that economic modelling is too full of uncertainties to be reliable. Yet, the default is an unacceptable status quo that counterfactually assumes that a major tax reform proposal will have no lasting effect on important macroeconomic aggregates such as the gross domestic product or employment. While CRS argues against use of certain economic analysis for tax proposals, it seems to at the same time welcome old-fashioned Keynesian stimulus "bang for the buck" estimates of so-called "stimulus" policies. Those estimates, of course, posit a change in spending or taxes and trace out dynamic effects, using uncertain economic models, on things like GDP and employment.

Why does CRS take a negative view of using uncertain macroeconomic projections for things like tax reform proposals but a positive, accepting view of using uncertain macroeconomic projections for things like stimulus proposals?

Answer. As noted previously, CRS takes no position on whether Congress should adopt policies such as dynamic scoring or fiscal stimulus. The CRS reports on these topics raise considerations for Congress as they debate policy options.

[4] The tax rates were Canada, 14%; France, 25%; Germany, 16%, India, 22%; Japan, 37%; and the UK 20%. The respective GDP estimates (in billions) are: $1,336, $2,649, $3,330, $1,310, $5,086, and $2,174.

The CRS report on dynamic scoring [5] and various CRS reports on the use of fiscal stimulus in the recession (such as the fiscal cliff report [6]) are addressing different issues. The dynamic scoring issue relates to scorekeeping rules which were developed to meet budget enforcement constraints. At the time the dynamic scoring paper was written, incorporating macroeconomic effects (at that time advisory) into a single official score was under discussion, and was adopted in House rules for the 114th Congress (H. Res. 5). The fiscal stimulus reports are reviewing widely held views of the effects on unemployment of tax cuts or spending increases and are about policy issues.

The CRS report on dynamic scoring did not take the view that tax cuts do not have macroeconomic effects but rather discusses some reasons certain types of effects might not be appropriate for dynamic scoring. Perhaps the most important of these is whether the short-run effects of a demand-side stimulus should be taken into account. Although both the dynamic scoring report and the fiscal cliff report indicate uncertainty about the magnitude of demand side effects, reasons for excluding these effects from the scoring of tax policies do not hinge solely on uncertainty. Rather, a major reason for raising the issue of including demand side effects is that such effects are transitory. As the report states with reference to demand side effects: "The most basic argument is that changes in the tax code shouldn't depend on the fiscal timing, as tax changes can be hard to reverse. A permanent tax cut should, it may be argued, not be viewed more favorably because it was enacted in a recession." The report also notes that these demand side effects (as well as crowding out effects) occur with spending changes as well which were not subject to dynamic analysis at that time. (The current House rule includes dynamic scoring for mandatory spending changes but not appropriations.) Also at issue is whether the Federal Reserve would offset the fiscal stimulus, an action much less likely while the economy was still well below full employment, as was the case with the fiscal cliff issue. The fiscal cliff report and related CRS reports were prepared as Congress considered stimulus in light of the largest output gap since the Great Depression.

Based on economic theory and empirical evidence, fiscal stimulus and crowding out effects are certain in direction, although uncertain in magnitude. For a revenue neutral change, supply-side effects depend on models and elasticities, as discussed in the dynamic scoring report. When they closely reflect the empirical evidence, revenue effects from supply-side responses are small and, for a tax cut that increases the deficit, likely to be offset in the long run by crowding out.[7]

Question. When CRS discusses stimulus proposals, at times it provides special attention to forecasts and multipliers developed by Moody's Analytics, a consulting firm, and listed as having been developed by forecaster Mark Zandi. Sometimes, Zandi's estimates are provided along with ranges of estimates presented by the Congressional Budget Office, where those ranges subsume estimates provided by Zandi's models. Why do Moody's Analytics estimates garner such extra attention by CRS?

Answer. Zandi's results were used because they were available and widely cited. He provided estimates of the effects of multipliers for different types of stimulus proposals (spending, tax cuts for lower income individuals, tax cuts for higher income individuals, tax cuts for business, etc.). Much of the discussion in the fiscal cliff and other papers was about what types of stimulus were most effective. The fiscal cliff report also provided CBO estimates for different types of stimulus. The report also included overall effects for forecasts by Morgan Stanley, Goldman Sachs, and Global Insight.[8]

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[5] CRS Report R43381, *Dynamic Scoring for Tax Legislation: A Review of Models,* by Jane G. Gravelle.

[6] For example, CRS Report R42700, *The "Fiscal Cliff": Macroeconomic Consequences of Tax Increases and Spending Cuts,* by Jane G. Gravelle.

[7] In JCT's estimate of effects of tax reduction using their macroeconomic growth model (MEG) and excluding macroeconomic effects, only a corporate rate cut had a revenue offset above 10% (13.2%). The individual rate cut had a 7.7% offset and a personal exemption increase 0.5%. All proposals eventually led to negative effects in the long run. See JCT, Macroeconomic Analysis of Various Proposals to Provide $500 Billion in Tax Relief, JCX–4–05, March 1, 2005, at *https://www.jct.gov/publications.html?func=startdown&id=1189.*

[8] Zandi's estimates by type of proposal along with CBO's estimates are included in two other papers on fiscal stimulus: CRS Report R41578, *Unemployment: Issues in the 113th Congress,* by Jane G. Gravelle and CRS Report R41849, *Can Contractionary Fiscal Policy Be Expansionary?,* by Jane G. Gravelle and Thomas L. Hungerford. Other reports that address the effectiveness of various fiscal policies and that do not refer to Zandi include CRS Report RL33657, *Running Deficits: Positives and Pitfalls,* by D. Andrew Austin, CRS Report R41034, *Business Investment and Employment Tax Incentives to Stimulate the Economy,* by Thomas L. Hungerford and Jane G. Gravelle; CRS Report RS21126, *Tax Cuts and Economic Stimulus: How Effective Are the Al-*

Question. Of course, the reliability of estimates from macroeconometric forecasting models depend on underlying assumptions in the models, including assumptions about wage or price rigidities that often have questionable empirical support, assumptions about economic agents willingly foregoing perceived gains from trade, assumptions about invariance of decision rules of economic agents to changes in the economic environment that they face, questionable identifying assumptions, and the like. Yet those assumptions do not seem to gather the same level of scrutiny in CRS reports as what are often referred to as "rigid" assumptions used in intertemporal models. Does CRS believe that assumptions used in many intertemporal models are in some sense more rigid than those used in macroeconomic forecasting models such as those constructed by Moody's Analytics?

Answer. Note that the CRS report on dynamic scoring questioned including short-term cyclical effects from forecasting models largely based on their transitory nature, as noted in a previous response.

Macroeconomic forecasting models are certainly detailed and depend on the behavioral responses, but their structure is generally straightforward (ISLM models can roughly be captured in four equations) and the conditions for fiscal effects to occur are also generally straightforward (basically sticky wages and prices). Moreover, there are many forecasters whose results can be compared and they all have powerful incentives to get forecasts correct.[9] Forecasters also produce short term results that can quickly be compared with actual outcomes.

JCT has most recently used a macroeconomic growth model that can reflect effects on unemployed resources as well as labor supply, along with an intertemporal model in the form of an overlapping generations (OLG) model. CBO also uses an OLG model, in addition to a growth model with a labor supply response. Intertemporal models do not contain direct labor supply responses. They are motivated by a desire to link microeconomic-based decisions to macroeconomic outcomes and trends and, in the case of the OLG model, to also estimate welfare effects of tax and spending changes. Therefore, individual choice is based on a utility function in which rational individuals choose leisure or consumption over a life time with perfect foresight. Behavioral responses flow from this utility function. Because labor supply responses are not entered directly in the model there are a number of constraints from the limits of the original utility function. In that sense, they are more rigid and less transparent than a growth model that includes direct labor supply function. They are also more difficult to construct and solve, and, to our knowledge, in contrast to the many macroeconomic forecasters, only two OLG models are currently in use for analyzing tax policy.[10] Although modelers may try to produce reasonable responses, these models have some significant restrictions that derive from their basic structure (see answer to next subpart below). Intertemporal models have been an active area of academic research, but are not generally used in forecasting.

Question. When CRS refers to assumptions used in intertemporal models as "rigid assumptions," what is meant by a rigid assumptions?

Answer. OLG intertemporal models used in tax analysis are based on an additive utility function over time, of a composite within period function of leisure and consumption that is characterized by constant returns to scale and a constant elasticity of substitution.[11] Individuals choose consumption and leisure over time, with perfect foresight. There is an extensive discussion of the issues with intertemporal models in the CRS Report CRS Report R43381, *Dynamic Scoring for Tax Legislation: A Review of Models,* by Jane G. Gravelle. Briefly, some of the issues are:

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ternatives?, by Jane G. Gravelle; CRS Report RS22790, *Tax Cuts for Short-Run Economic Stimulus: Recent Experiences with Rebates and Bonus Depreciation,* coordinated by Jane G. Gravelle; CRS Report R40178, *Tax Cuts on Repatriation Earnings as Economic Stimulus: An Economic Analysis,* by Donald J. Marples and Jane G. Gravelle; CRS Report RL31134, *Using Business Tax Cuts to Stimulate the Economy,* by Jane G. Gravelle.

[9] The Blue Chip Consensus forecast aggregates the results of 50 private forecasters.

[10] The JCT OLG model is leased from Tax Policy Advisors LLC which also uses the model to estimate tax effects. The CBO model was constructed by CBO. Infinite horizon models that represent the economy as a single infinitely lived individual have also been used by JCT and CBO in the past.

[11] This is the form of utility function that appears in OLG models. Some infinite horizon models have been developed that employ additive leisure and consumption in the within-period utility function. There is also an extensive literature that attempts to relax some of the assumptions of an additive intertemporal utility function with a constant discount rate, but these functions are difficult to calibrate and solve.

(1) The models introduce intertemporal substitution of labor with respect to changes in wages over time but are unable to account for institutional rigidities that in most cases prevent workers from easily entering and exiting the labor force or changing hours.

(2) The form of the utility function forces the income elasticity of leisure and consumption in the within period function to be one, which makes it difficult to calibrate the model to match empirical evidence. In addition, the embedding of this function in an intertemporal utility function adds to the difficulties of making the model's responses consistent with empirical evidence.

(3) The form of the utility function makes labor a function of the rate of return, a relationship many might find implausible and for which no empirical data exist.

(4) The additive time-separable utility function makes substitution elasticities between close-together periods (e.g., next year) the same as between far-apart periods (e.g. 20, years in the future). It is reasonable to think of close-together periods as closer substitutes than far-apart time periods. There is no empirical evidence that relates to substitution between far-apart periods, only close-together ones, but the effects can be quite large when rates of return change.

(5) Models do not permit marriage, which could affect savings behavior, particularly in the infinite horizon model.

(6) Because the model has to be solved at infinity it cannot permit a deficit or surplus which would grow over time. Some other policy has to be introduced to close the model and, in effect, the model cannot be used for a stand-alone tax proposal that reduces or increases tax revenues, even in the short or intermediate term, unlike the in-house macroeconomic growth model also used by JCT. The outcome will depend on the additional policy assumed. Moreover, it is not possible to capture the effects of crowding out investment through borrowing.

Question. In analyzing tax reform, economic effects, and economic efficiency, policymakers will rely to some extent on accompanying macroeconomic analyses of tax reform proposals produced by the Joint Committee on Taxation and, perhaps to a degree, by the Congressional Budget Office. Traditionally, "scoring" practice has involved use of macroeconomic analyses of significant tax reform proposals that hold fixed the assumed future path for steady-state growth and sometimes levels of important macroeconomic aggregates such as gross national or domestic produce, the size of the labor force, and other aggregates—often described as "static" scoring. Use of macroeconomic analysis that allows for long lasting, or steady-state, reform effects on important macroeconomic aggregates is sometimes referred to as dynamic scoring. CRS has produced numerous papers on dynamic scoring, many of which you have authored. For example, you wrote a CRS report published in July, 2014, which provides CRS views on dynamic scoring.

The report identifies that "Many uncertainties arise with respect to dynamic scoring, which depend on the type of model used, the behavioral responses build into the models, and assumptions about activities of other agents or supplemental policies that are necessary to solve some types of models." Of course, there also exist many of the same uncertainties in traditional static scoring given, as your report notes, that "many behavioral responses are already included in conventional revenue estimates." As an example, you point out that "increasing capital gains taxes is assumed to cause a reduction in realizations that reduces the potential revenue gains." Is it CRS's position that static scoring in some sense is less uncertain than dynamic scoring? If so, please explain why.

Answer. For two reasons, conventional scoring is likely to be less uncertain. First, although some revenue estimates are difficult because of lack of data (e.g., the 2004 repatriation holiday that allowed firms to return foreign source income at a lower tax rate) and some behavioral responses such as capital gains realizations may rely on uncertain microeconomic behavioral responses, these cases are probably the exception rather than the rule. Most estimates, particularly of significant tax changes, such as rate changes, changes in personal exemptions, standard deductions, itemized deductions, depreciation, the production activities deduction, etc. can be fairly precisely estimated because the data appear on tax returns and these data can be relatively easily projected into the future. Moreover, exclusions that are not reported on tax returns are available, in many cases, on other extensive data bases. Traditional revenue estimating, on average, is relatively precise.

Second, whatever the uncertainties of conventional estimates, dynamic scoring adds an additional layer of uncertainty. That is, dynamic scoring adds some variance so that the new score will be more variable than the old.

Question. The report also identifies that "The infinite horizon model, however, is incompatible with perfectly mobile international capital." Please explain what that means.

Answer. An infinite horizon model, to achieve a steady-state growth in consumption, always forces the after-tax rate of return to converge to its original value (i.e., it is characterized by an infinite elasticity of savings). When combined with an open economy with perfectly mobile capital, the model can only reach a steady state with a corner solution, where one country's residents own all of the capital in the world. (Actually, for that matter, the infinite horizon model is incompatible with differences in state personal income taxes in the United States or with individuals with different preferences.) This open economy outcome occurs because the residents of each country require a certain after-tax return in every country but if residents face different residence-based tax rates, they will require different, yet equal, pre-tax returns around the world, which can only hold for one country.

To explain why this happens consider a world composed of two countries, A and B, each earning an after-tax (and pre-tax) return with no taxes of 5%. In a closed economy, if A is suddenly subjected to a 50% tax (which causes the after-tax return to fall to 2.5%), the residents will begin reducing their savings because the return has fallen. They will continue to reduce the capital stock, driving up the pre-tax return as capital becomes scarcer, until the pre-tax return rises to 10% and the after-tax return back to 5%.

In an open economy, however, as the residents of A push up the pre-tax return, residents of B will invest in A, which will also cause the pre-tax return in B to rise as capital becomes scarcer in B. Now B is out of equilibrium and the higher after-tax return causes them to increase savings, which lowers returns everywhere and puts more pressure on A to decrease savings. A continues to decrease its capital, and B to increase it, until B owns everything.

Question. The report also discusses a "new version of the OLG model used by JCT" and possible effects in the model of innovations in a firm's intellectual property. Please explain CRS's understanding of how intellectual property enters into a firm's production function and decision making in the new version of the OLG model used by JCT.

Answer. The output effects in the JCT OLG model of the Camp proposal are higher than can be accounted for by changes in capital and labor.[12] The percentage change in output, roughly, is equal to the sum of the percentage change in labor multiplied by the labor income share and the percentage change in capital multiplied by capital income share. JCT does not report labor and capital income shares, but using a rule-of-thumb of ⅔ labor and ⅓ capital, the output increase from their in-house macroeconomic growth (MEG) model assuming a labor substitution elasticity of 0.2, given a 0.3% increase in labor and a 0.1% increase in capital (in the first five years), would be 0.2%.[13] That is the percentage change in GDP reported. For the OLG model with a 1.4% increase in labor and a 0.2% increase in capital, the expected increase in GDP would be 1%. The increase in GDP reported for the OLG model in the first five years is, however, 1.8%, not 1%.

Additional information on the possible source of the extra 0.8% increase in output that cannot be explained by capital or labor inputs in the OLG model can be found in a study using the same model sponsored by the Business Roundtable.[14] In this simulation, as well, the increases in capital and labor could not explain the increases in output. For example, the 0.5% increase in labor and the 0.2% change in the capital stock in year 2 suggest an increase of 0.4%, but the increase was 0.9%, indicating a 0.5% difference. In year 5, it accounted for a 0.7% difference. These unexplained amounts are slightly smaller than in the JCT OLG model but are similar enough, given rounding.

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[12] JCT, Macroeconomic Analysis of the "Tax Reform Act of 2014," JCX–22–14, February 26, 2014, *https://www.jct.gov/publications.html?func=startdown&id=4564.*

[13] That is 0.3% times ⅔ plus 0.1% times ⅓ equals 0.233% which would be rounded to 0.2%.

[14] John W. Diamond and George R. Zodrow, Dynamic Macroeconomic Estimates of the Effects of Chairman Camp's 2014 Tax Reform Proposal, Tax Policy Advisers LLC, Prepared for the Business Roundtable. *http://businessroundtable.org/sites/default/files/reports/Diamond-Zodrow%20Analysis%20for%20Business%20Roundtable_Final%20for%20Release.pdf.*

The significantly greater effect of the new version of the OLG model used by JCT, as indicated in the Business Roundtable study, appears to result in large part from the shift of intellectual property from foreign countries to the United States which is not reported in the JCT analysis.[15] As in the MEG model, there was shifting of physical capital from abroad (which is reflected in the calculations above for labor and capital).[16] In the Business Roundtable study, the stock of intellectual property increased by 6.9% in year 2 and 16.7% in year 5. The authors of the Business Roundtable study (and heads of Tax Policy Advisors LLC) indicate that this shift enhances the productivity of labor and capital, although they did not specify in that paper how this effect occurs. We confirmed with John Diamond, coauthor of the Business Roundtable paper and constructor of the OLG model, that intellectual property (which the authors refer to as firm specific capital) is entered as an element of the production function, just as labor and physical capital is.

There are two issues that can be raised with this new channel of growth. The first is that the assumed semi-elasticity (percentage change in profits divided by the percentage point change in the tax rate differential) reported for profit shifting is 8.6. The consensus elasticity from the literature for profit shifting, which should be the same, is 0.8.[17] Roughly speaking, the output effects should be less than 1⁄10 of the effect, or less than 0.1% of GDP if the consensus elasticity were used.

More importantly, intellectual capital is not located physically.[18] Once it exists it can be used everywhere. For example, when a firm discovers a drug such as Lipitor, it uses the formula no matter where the pills are made. When a firm develops the technology for a smart phone, or a search algorithm, that knowledge can be applied to production everywhere. It does not matter if the patent is held in country A and licensed to country B, or vice versa. Therefore, shifting ownership of intellectual property to the U.S. cannot increase productivity in the U.S. because that input is already in existence. The intellectual property effect is about revenues, not output. The case is similarly weak for marketing intangibles. For general property such as trademarks, firms like Starbucks and products like Coca-Cola share the benefits of trademarks regardless of where ownership rights are held.

The Tax Foundation made a similar point:

> ". . . Diamond and Zodrow find that U.S. workers and ordinary capital would be more productive under Camp's plan due to patents and other intangibles sited in the U.S. rather than in the foreign subsidiaries of U.S. multinational companies. It is unclear how Apple workers or Apple machines, for example, would be significantly more productive if Apple patents were sited in the U.S. Are the patents somehow inaccessible currently by the U.S. parent company?"[19]

At this time, the JCT's OLG modeling of the Camp proposal appears to rely on economic modeling with magnitudes of shifting larger than can be supported by the empirical evidence, and with output effects unlikely to be realized regardless of the amount of shifting.

Question. The report, and in other of your CRS reports, provides a threefold CRS decomposition of effects in a dynamic estimate: short-run stimulus; long-run crowding out; and supply-side responses.

i. Is this a standard decomposition in the economics profession, or one unique to CRS?

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[15] JCT indicates that this modeling follows that of Michael P. Devereux and Ruud de Mooij in "An Applied Analysis of ACE and CBIT Reforms in the EU," *International Tax and Public Finance,* vol. 18, no. 1, 2011, pp. 93–120 and Leon Battendorf, Michael .P. Devereux, Albert van der Horst, Simon Loretz and Ruud de Mooij, "Corporate Tax Harmonization in the EU," *Economic Policy,* vol. 63, 2010, pp. 537–590. The authors do not present any empirical evidence to support entering what they refer to as firm-specific capital into the production function, or the importance of it in the economy.

[16] The Business Roundtable simulation differed from JCT in other ways, but these would not cause significant short-term differences.

[17] Dhammika Dharmapala, "What Do We Know About Base Erosion and Profit Shifting? A Review of the Empirical Literature," Illinois Public Law and Legal Theory Research Papers Series, No. 14–23, December 2013.

[18] An exception might be intangible capital embedded in work force skills, but this property is relatively immobile since it is embedded in immobile labor.

[19] William McBride, Some Questions Regarding the Diamond and Zodrow Modeling of Camp's Tax Plan, Tax Foundation, March 17, 2014,

http://taxfoundation.org/blog/some-questions-regarding-diamond-and-zodrow-modeling-camps-tax-plan.

ii. In discussing the short-run stimulus (or "demand") effects, the July, 2014 report identifies that "These effects only occur in an underemployed economy (otherwise the stimulus increases the price level) and they are transitory because eventually the economy would have returned to full employment without the stimulus." On that basis, the report argue that "this effect might be inappropriate to consider in dynamic estimation" because a permanent tax policy change should not depend on short-run effects that will not persist and may depend on initial conditions. Does this mean that CRS believes that the initial conditions (i.e., state of the economy when a reform in begun) and transition to a new steady state ought not be considered and macroeconomic analysis of a tax reform proposal should involve only comparison of an initial steady state with a new steady state, ignoring transitional dynamics?

iii. In discussing supply-side effects, the report identifies that CRS believes that "Intertemporal models, in particular, have results that are driven by assumptions embedded in the nature of the model, but which appear unrealistic and have no empirical support in some cases." Models do, of course, have results that depend on assumptions made in their construction, and that is not unique to intertemporal models. However, CRS seems to believe that intertemporal models have assumptions that appear unrealistic. It is not clear what that means, since model assumptions are often intentional abstractions from aspects of reality that are not critical for the purpose for which the model is constructed, and are therefore unrealistic by design. What assumptions (not parameterizations) of intertemporal models does CRS believe are unrealistic? What assumptions of intertemporal models do not have empirical support? In cases in which parameter values are not well defined by empirical support, what assumptions are there that could not be altered in sensitivity analysis performed to check model implications for robustness?

Answer. In answer to question (i), this decomposition follows earlier policy debates on the macroeconomic effects of fiscal policy changes. Economists testifying at a 1995 hearing convened to discuss dynamic scoring issues distinguished between demand side (or cyclical) and supply-side (or permanent growth) effects.[20] Most did not discuss crowding out (possibly because it has little effect in the five-year budget horizon), but former Chairman of the Federal Reserve, Paul Volcker mentioned crowding out as a separate force that would offset supply-side effects. These are also the effects for which JCT often provides sensitivity analysis by presenting a case where cyclical effects are excluded and also a case where both cyclical and crowding out effects are excluded. Finally JCT uses an intertemporal model that only permits one of these effects (supply-side), which would seem to be an important consideration in examining the effects from this model.

In answer to (ii), as discussed earlier, there is a case to be made for excluding cyclical effects which are transitory at best and which depend on the state of the economy when a tax change is made. Most of the economists participating in the 1995 hearing either supported excluding demand side-effects or suggested caution in considering those effects.[21] For supply-side effects and crowding-out, under-

[20] The economists testifying at the hearing included Robert Reischauer, director of CBO, former and current chairmen of the Federal Reserve Paul Volcker and Alan Greenspan, former CBO director Rudolph Penner, Henry Aaron of the Brookings Institution, professors Michael Boskin and Martin Feldstein, and Norman Ture from the Institute for Research on the Economics of Taxation. See *Review of Congressional Budget Cost Estimating,* Joint Hearing before House and Senate Budget Committees, 104th Congress, Serial 104–1, January 10, 1995.

[21] Perhaps the most extensive discussion of demand-side effects was by Henry Aaron, who stated, under the heading Aggregate Demand Effects: "These demand effects are purely short-run, however. They have no significant impact on the long run path of economic activity. Thus, tax or expenditure policy, as well as monetary policy, can change overall demand for a period of months or even for a few quarters. But, unless they alter potential output, they do not affect the long-run path of economic activity, and therefore produce no enduring change in revenues. This fact is one of three major reasons why revenue estimators make no attempt to take these effects into account." (p. 156). Aaron goes on to note that such estimates are impossible to make in any case because they depend on actions by the Federal Reserve as well as foreign central banks and foreign governments. He also notes the wide variation in estimated multipliers. Alan Greenspan states: "There are a number of ways of looking at this, but I would suggest that including aggregate demand effects would be confusing, if not misleading, in many if not most contexts. Among other things, the scope for realizing such demand effects on economic activity would be a function of the particular phase of the business cycle and could be viewed in a sense as transitory. Particularly when we are addressing the problem of a long-run structural deficit, the focus should be on how fiscal actions affect the potential of the economy to produce greater output and taxable income on a sustained ongoing basis. Thus, if a more dynamic scoring were to be adopted, I would recommend limiting the analysis to appropriate supply-side effects." (p.

Continued

standing effects both inside and outside the budget window would be informative, particularly when tax changes themselves are transitory or phased in. Longer term results would also more fully reflect induced capital accumulation as well as crowding-out. Note that there can be no steady state in models where crowding out (or crowding-in) occurs because this effect grows within limit.

In answer to (iii), some of the problems in intertemporal models are outlined in the answers to question 3 which identify two responses without empirical basis: the elasticity of substitution between farther apart periods and the responsiveness of labor supply to the interest rate. A time consistent intertemporal utility function that could yield declining substitution across periods that are farther apart would be ideal to test the importance of the first, but thus far, to our knowledge, a model with such a function has not been constructed. One could only test the overall importance of this issue by reducing the overall intertemporal substitution elasticity to zero, which would also eliminate the response of labor supply to the interest rate. Such a sensitivity analysis would be helpful, but it would not test for the effect of differing elasticities across time periods.

The other features of intertemporal models that one could argue are unrealistic are perfect foresight and the assumption that individuals make choices in every period about allocating leisure and consumption across their remaining life, asexual reproduction, and the absence of institutional constraints that affect intertemporal shifts in labor supply and choice of hours. The models actually used also have a single representative agent (either overall or for each generation), and do not allow the separation of the suppliers of labor and the suppliers of capital, or separation by income class (although this could be remedied in the OLG by redesigning the model). The infinite horizon model, now not currently used by JCT, could separate spenders and savers, which has been done in other cases.

Question. The report places a great deal of scrutiny to assumptions involved with intertemporal models, many of which are worth keeping in mind. However, many of the assumptions or features of the models seem not to be focused on their abilities to provide useful information about how the economy might respond to large-scale tax changes. And, of course, assumptions can be modified if the purpose of a model is modified. The report comments on assumptions about: expectation formation; horizons; inclusion, or not, of marriage and fertility choices, etc. Is it symmetrically important to scrutinize those same assumptions in other macroeconomic models, such as those emphasizing "multipliers" that stem from "demand" effects when macroeconomic aggregates are assumed to be determined outside of an equilibrium construct?

Answer. Macroeconomic models that focus on or include demand-side effects are not sensitive to assumptions about how consumer preferences are modeled, but are more closely grounded in data.[22]

Question. The report identifies that "A large body of evidence suggests the labor supply response to increase in wages is small, varies across workers, and can be negative for men." It then goes on to say that "This evidence includes historical observation, cross section econometric studies, and estimates from experiments." Of

127). Martin Feldstein refers readers to his *Wall Street Journal* article of December 14, 1994, "The Case for Dynamic Analysis," where he states, in discussing why analysts ignore labor supply and capital stock: "The most plausible explanation is that the revenue estimators do not want to contaminate the estimated long-term effects of proposed tax changes with their potential temporary cyclical effects. The tax analysts are correct to ignore the potential cyclical effects of tax policy because the Federal Reserve can be expected to use monetary policy to offset them." (p. 195). Robert Reischauer suggests that including cyclical effects is problematic, in part, because of the potential for offset by the Federal Reserve (pp. 8–9). Paul Volcker suggests caution about cyclical effects when the economy is operating at close to full employment, which could lead to inflation and eventually induce contraction (p. 77). Michael Boskin states: "It is common to separate dynamic effects into demand side and supply side effects. I believe under normal circumstances (i.e. except in deep long-lived recessions) it is a reasonable working hypothesis that demand side effects should be presumed to be negligible and/or likely on balance to be offset by monetary policy. In any event most proposals under current budget law will be parts of packages that do not increase the usual, if controversial, measure of demand side stimulus—the standardized employment surplus." (p. 185). This last statement appears to relate to the lack of effect on potential output. Norman Ture urges the use of a neoclassical model which would exclude demand side effects and reject any model that, in his terms "employs a first order income effect." (p. 209) He appears in the preceding discussion to not see demand-side effects as valid.

[22] The MEG is a hybrid that includes demand side effects, labor supply, and choices of consumption (not leisure) over time using a myopic model. The latter has only to do with generating a supply-side savings response.

course, there has been a great deal of careful research modelling, discussing, and comparing microeconomic and macroeconomic labor supply elasticities. Much of the evidence that CRS seems to weigh most heavily involves microeconomic elasticities estimated from variations used to estimate responsiveness at the intensive or, sometimes, the extensive margin for individuals. Yet, we observe large fluctuations in aggregate hours of work in response to small fluctuations in worker productivity, leading some to believe that the Frisch intertemporal substitution elasticity, which is important to aggregate fluctuations, may be large. There have been disagreements for some time between those who point to estimates of labor supply elasticities from microeconometric studies, like those most often emphasized by CRS, and those who indicate that aggregate fluctuations lead them to infer larger elasticities. Is CRS aware of any aggregation theory that could reconcile competing ideas about whether the high or low elasticity view could be reconciled?

Answer. The basic concern about Frisch (intertemporal) labor substitution elasticities derived from business cycle data is that these estimates usually rest on assuming that unemployment during downturns is voluntary (the real business cycle model). Since wages vary much less than employment, a large elasticity is required to explain this large change in labor with a small change in wages. These elasticities are usually in the range of 2 to 4. That is, the shock to wages causes workers to leave the workforce. An ISLM model would see this phenomenon as due to rigidities in changing the wage to accommodate shocks, resulting in involuntary unemployment. In that view, the methodology used to derive Frisch elasticities would produce elasticities that are too high. This issue of involuntary unemployment is the major reason for questioning the Frisch macro elasticities.

Given a view that unemployment in a recession is largely involuntary, microeconomic data are more appropriate to use in estimating the Frisch elasticity. As outlined in the review of Frisch elasticities by CBO[23] and also in the CRS report on dynamic scoring, some studies have criticized the microeconomic estimates, but CBO concludes that small estimates of the Frisch elasticity averaging around 0.4 are appropriate for their models. It appears that the two types of elasticities cannot be reconciled.

Question. The report refers to a "large meta-analysis" of estimates of the intertemporal elasticity of substitution (IES), which reported a value of 0.6 for the United States. We were unable to locate that paper, as referenced, containing the meta-analysis, though we did locate a paper by the same title and by the same authors in the William Davidson Institute Working Paper series (number 1056) at the William Davidson Institute at the University of Michigan. In that paper, the authors state that "An important issue that we do not discuss in this paper is publication selection bias. Several commentators have suggested that in empirical economics statistically insignificant results tend to be underreported and that the resulting mean estimate observed in the literature may be biased. . . ." The CRS report, summarizing some variant of the paper that we were able to locate, states that "The authors cautioned that the estimates were aimed at comparing across countries and were too large in value because of publication bias." Please provide a variant of the paper (not the companion paper that goes into more depth on "publication bias") in which the caution about estimates being too large because of publication bias is made.

i. The CRS report, after raising the caution above, then goes on to use a study of potential effects of various types of possible biases reported by one study to show that the IES could be lower than the 0.6 value, perhaps as low as 0.0. Of course, publication or reporting biases could be present in estimates for numerous parameter values relevant for economic models and analyses, and the direction of bias is not necessarily always clear. Is the estimate of the IES the only parameter estimate drawn from the professional literature for which CRS believes there could be need for correction because of publication bias? If so, are any estimates from professional publications unbiased and not subject to publication bias? Why did CRS choose to focus on publication bias for the IES estimation alone?

Answer. We are supplying both papers used for the report with this response although in one case the paper has a newer date. They are located at *http://ies.fsv.cuni.cz/sci/publication/show/id/4868/lang/en* and at *http://meta-analysis.*

[23] Felix Reichling and Charles Whalen, Review of Estimates of the Frisch Elasticity of Labor Supply, Congressional Budget Office, Working Paper 2012–13. October 2012, *http://www.cbo.gov/sites/default/files/cbofiles/attachments/10-25-2012-Frisch_Elasticity_of_Labor_Supply.pdf.*

cz/eis/eis.pdf.[24] They are also referenced and linked in CRS Report R43381, *Dynamic Scoring for Tax Legislation: A Review of Models,* by Jane G. Gravelle.

The CRS report did not intend to imply that the intertemporal elasticity of substitution was the only case where publication bias might be a factor and noted that point. This paper was the only estimate of publication bias for the relevant elasticities that we were able to find. Such an estimate requires a large body of data so that studies of the other elasticities may not be feasible.

Question. The CRS report identifies that macroeconomic estimates of the Frisch elasticity ". . . rest on the assumption that unemployment during recessions is voluntary . . . Assuming some or most of unemployment is involuntary, these estimates overstate the Frisch elasticity." Is it necessary, for a macroeconomic estimate of the Frisch elasticity to be "large" that the model used to "estimate" the elasticity involve only "voluntary" unemployment?

Answer. We are aware of a study that estimated a Frisch elasticity in a macroeconomic model with some rigidities, including sticky wages, and found a high value.[25] The approach was a Bayesian one (which begins with a set of prior assumptions) and the prior included a high intertemporal elasticity of substitution (1.5, while the literature suggests around 0.2), which suggests some reservations about the findings.

Question. The paper discusses a survey of Frisch elasticity studies performed by Keane and by CBO, and concludes the relevant section with "Neither of these studies reference Ball, who found a zero Frisch elasticity. For Keane's summary, including this study would reduce the mean to 0.34 and the median to 0.17." Does this mean that CRS identified a study that Keane had not incorporated into his survey—a study for which the Frisch elasticity was found to be zero—and is putting forward that if you incorporate that zero finding into what Keane had averaged and compute a new average, you'd have a lower mean and median? If so, using that method of analysis, if we were to find some other study that Keane had not incorporated, which found a Frisch elasticity that is sufficiently large, could it be put forward that including it would generate a larger mean and median estimate as well? What disciplines this type of extraneous addition process?

Answer. We reviewed the literature for studies excluded from the Keane and CBO surveys; the only additional paper we found was the Ball paper, which we reviewed and then referenced.

Question. In the CRS report, as well as others produced by CRS regarding models used by the Joint Committee on Taxation, seemingly outsized attention, without much reference to why it is warranted, is sometimes given to statements by or views of a Professor named Ballard. For example, on page 31 of the July, 2014 report, it is written that "Is it possible to make choices that would lead to better elasticities? It would require using the time endowment as a tool to fit the model to evidence, as suggested by Ballard." Where is that suggestion made, and why is it important to consider?

Answer. Charles Ballard, a professor at Michigan State University, is one of the few economists in the country to have constructed an OLG model. When the JCT convened nine modelers to study macroeconomic modeling of tax changes, following the 1995 hearings, Professor Ballard was asked to discuss the four intertemporal model results at a symposium. The papers and comments were published as a committee print and are available on the JCT website.[26] Professor Ballard's discussion is on pp. 152–163, and his suggestion of using the time endowment to fit the model's elasticities to correspond to empirical estimates of elasticities is on p. 160. As he explains in his discussion, the amount of leisure generated by the time endowment choice is not of interest, but the labor supply is. Thus, the time endowment can be viewed as a free parameter that can be used to reduce the elasticities in the model

[24] C Tomas Havraneka, Roman Horvathb, Zuzana Irsovab, and Marek Rusnaka, Cross-Country Heterogeneity in Intertemporal Substitution, Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague, 2013.

http://ies.fsv.cuni.cz/sci/publication/show/id/4868/lang/cs; Tomas Havranek, Publication Bias in Measuring Intertemporal Substitution, Czech National Bank and Charles University, Prague, September 15, 2014, *http://meta-analysis.cz/eis/eis.pdf.*

[25] Frank Smets and Rafael Wouters, "Shocks and Frictions in US Business Cycles: A Bayesian DSGE Approach," *American Economic Review,* Vo. 97, No. 3, June 2007, pp. 586–606.

[26] Joint Committee On Taxation Tax Modeling Project And 1997 Tax Symposium Papers, JCS–21–97, November 20, 1997,

https://www.jct.gov/publications.html?func=startdown&id=2940.

so that they correspond more closely with empirical estimates. The CRS report on dynamic scoring contains a specific example of how this parameter might be used.

Question. The CRS report identifies that ". . . the assumption of equal substitution elasticities between consumption across far apart periods means that these models [intertemporal models] still rest on unproven, and probably unreasonable assumptions about the elasticity of substitution between consumption amounts that are ten or twenty years apart." Please explain what this means. What, specifically, about an intertemporal model's assumptions about preferences or trading opportunities gives rise to the model not being reasonable with respect to an individual's willingness to substitute consumption or leisure across two adjacent periods or two remote periods? What criteria do CRS use to determine whether or not a model is "reasonable?"

Answer. The issue with intertemporal subsitution in these models is that although there are estimates of the willingness to substitute between the current period and the next period, we have no statistical evidence about how willing individuals are to substitute between consumption now and, for example, twenty years from now. Changes in the rate of return cause larger changes in the price of future consumption the farther the time is in the future. For example, an after tax rate of return that rises from 5% to 7.5% when taxes are eliminated would cause the price to fall by 2.3% one year into the future, 37.5% at 20 years into the future, and 72.6% at 55 years into the future. Of course in perfect foresight models, the saving induced by these changes would push returns back down. But these are important price changes which also cause abor supply to increase in the present to finance more leisure in the future. Thus, shifting to a consumption tax can cause very large (and some would say, implausible) results such as a doubling of the saving rate or a 4% increase in the labor supply.[27]

With no empirical evidence one can only apply introspection to the issue of changing elasticities. It would seem intuitive that closer together periods are better substitutes than far apart ones. Consider this simple example. Suppose you wish to take a one week cruise and there is a one-time tax this year on cruise tickets. Would you be more likely to postpone your cruise until the next year, or delay it two years with a small additional amount of cash available from saving for an extra year? A constant elasticity of substitution says that the two are equal options, but most people, we suspect, would choose the one year delay. The fundamental point is that we don't have evidence of constant substitution elasticities, yet this assumption can drive a very large response to changing rates of return even if we had the correct intertemporal substitution elasticity for close together periods.

It is also worth noting that many other aspects of the standard utility function of the consumption bundle over time have been questioned, and often found to be inconsistent with people's choices in experimental economics.[28]

Question. CRS reports covering macroeconomics at times refer to "mainstream economics" or "the mainstream view" or "the mainstream model" in reference to aspects of the macroeconomy, such as the efficacy of short-term, debt-financed increases in federal spending when output and employment are below some measure of a smoothed trend. Yet, it is not clear what should be represented as a "mainstream" view or model. What seems clearer is that macroeconomic research has evolved to incorporate better tools of analysis than what were in existence decades ago, including dynamic programming, computational methods, and use of dynamic, stochastic, general equilibrium models that fully articulate the analytical primitives of tastes, technologies, trading opportunities, and shock processes. Using those tools, and within those frameworks, a host of "views" can be accommodated, ranging from sticky-wage, sticky-price views of macroeconomic fluctuations to a range of other mechanisms for explaining business cycle and growth phenomena. Please describe what it is that CRS takes to be "mainstream economics."

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[27] These results were found for their OLG model by Eric Engen, Jane Gravelle, and Kent Smetters, "Dynamic Tax Models: Why They do the Things They Do," *National Tax Journal,* Vol. 50, No. 3, September 1997, pp. 631–656.

[28] Shane Frederick, George Loewenstein and Ted O'Donoghue, "Time Discounting and Time Preference: A Critical Review," Source: *Journal of Economic Literature,* Vol. 40, No. 2, June. 2002, pp. 351–401.

Answer. The report on the fiscal cliff,[29] while noting that some prominent economists disagreed, stated: "The discussion of economic effects in this section may be seen as a mainstream view as reflected in the analysis of the Congressional Budget Office, the International Monetary Fund, the Federal Reserve Board, other government forecasters, and private forecasters." And in the report on austerity:[30] "Mainstream economics relies on a basic theory regarding policies to expand the economy in a downturn. This theory can be found in economics textbooks and is used by government and private forecasters to project the path of the economy. This view has been the basis for fiscal and monetary policy interventions to stimulate the economy for many years, under both Republican and Democratic administrations. Chairman Bernanke of the Federal Reserve was referring to this view when he cautioned against large and immediate spending cuts.[31] The basic thrust of the model for fiscal policy is that increasing the deficit (whether by increasing spending or cutting taxes) expands an underemployed economy, and decreasing the deficit (cutting spending or raising taxes) contracts it."

It may also be interesting to note that when The Initiative on Global Markets at the University of Chicago recently surveyed prominent academic economists as to whether the stimulus measures in 2009 had reduced unemployment out of the 37 that answered the survey (44 were contacted), 36 agreed that the stimulus had reduced unemployment.[32]

Question. In your written testimony, you write: "The repatriation tax could be eliminated by moving to a territorial tax, eliminating deferral and taxing all income currently, or imposing a current tax at a lower rate. All are proposals that have been made, although repealing deferral would yield enough revenues to reduce the corporate tax rate by three percentage points. Such a change might need to be accompanied by a provision to further restrict corporate inversions." Repealing deferral would seem to exacerbate the number of corporate inversions. What specific provision would need to be accompanied with repealing deferral to restrict corporate inversions?

Answer. There are a number of possible changes that would make inversions more difficult or reduce the tax benefits associated with them. These provisions are discussed in a recent CRS report.[33] Treasury regulations have been issued to prevent tax-free repatriation by lending of the former U.S. company's subsidiaries to the new parent. Such rules might be codified or made more significant by taxing accumulated deferred earnings of the former U.S. company (sometimes described as an exit tax). Another set of proposals would disallow inversions if the former U.S. firm maintains 50% control or ownership or has 25% of its business activity in the United States. Proposals have also been discussed to limit earnings stripping, where the inverted firm shifts taxable income out of the United States through inter-company loans. Proposals have been made to reduce the current limit on interest deductions relative to adjusted income from 50% to 25% and repeal the alternative safe-harbor debt-to-equity test. Such proposals might be applied to all U.S. subsidiaries of foreign parents of U.S. firms. An alternative to limiting deductions could be applied to all firms by allocating deductible interest in proportion to earnings. IRS could also be charged with special scrutiny of transfers of intangibles of subsidiaries of the former U.S. firm to ensure that they are arm's length.

PREPARED STATEMENT OF HON. ORRIN G. HATCH, A U.S. SENATOR FROM UTAH

WASHINGTON—Senate Finance Committee Chairman Orrin Hatch (R–Utah) today delivered the following opening statement at a committee hearing on tax reform, growth and efficiency:

The committee will come to order.

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[29] CRS Report R42700, *The "Fiscal Cliff": Macroeconomic Consequences of Tax Increases and Spending Cuts,* by Jane G. Gravelle.

[30] CRS Report R41849, *Can Contractionary Fiscal Policy Be Expansionary?,* by Jane G. Gravelle and Thomas L. Hungerford.

[31] Bernanke Warns Against Steep Budget Cuts. Reuters, February 9, 2011, *http://www.reuters.com/article/2011/02/09/us-usa-fed-idUSTRE7183J220110209.*

[32] See Justin Wolfers, "What Debate? Economists Agree the Stimulus Lifted the Economy," *New York Times,* July 29, 2014, *http://www.nytimes.com/2014/07/30/upshot/what-debate-economists-agree-the-stimulus-lifted-the-economy.html?_r=0.*

[33] CRS Report R43568, *Corporate Expatriation, Inversions, and Mergers: Tax Issues,* by Donald J. Marples and Jane G. Gravelle.

I want to welcome everyone to today's hearing to discuss tax reform, growth, and efficiency. I also want to thank our witnesses for appearing before the committee today.

Many of us on the committee believe that tax reform is no longer optional. Rather, it is essential to help get our economy moving again. I believe that there is bipartisan agreement on the need for tax reform.

Ranking Member Wyden, for example, has been invested in reform for about a decade now. Other members of this committee have worked diligently in recent years to examine available options and tradeoffs. Our efforts continue with bipartisan working groups that we established to engage in studying the issues, examining tradeoffs, considering options, and arriving at recommendations.

The Obama Administration also remains interested in bipartisan efforts to reform the tax code, with particular interest in business tax reform.

I disagree with most of the aggressive, often anti-growth, proposals in the President's recent budget aimed at significantly hiking taxes on capital as well as on savings and investment. Nonetheless, I welcome willingness on the part of the administration to engage in dialogue about how to reduce tax burdens on American businesses of all types, and how to improve the tax system for working American families.

While there is no shortage of interest in tax reform, we need to continue to work in a bipartisan way toward action.

Today's hearing will allow us to hear from an expert panel of witnesses about their views on how we can reform the tax system to promote growth in wages, jobs, and the economy and reduce economic inefficiencies.

Issues surrounding how best to promote the efficient allocation and utilization of resources accompany any objective for promoting growth. In my view, we should minimize tax provisions that stand in the way of efficiently utilizing resources.

While there are many issues surrounding how society values resource allocations, there are striking areas of our existing tax system that need attention. For example, our statutory and effective corporate tax rate is far too high relative to our international competitors, which impedes the abilities of U.S. firms to compete.

And there are many tax-driven distortions in the tax code, but the list is too long for me to cover in the limited time I have available in my opening remarks.

By now, I hope that everyone is clear on the principles that I believe should guide us as we examine tax reform. Prominent among those principles is that tax reform should significantly reduce economic distortions that are present under the current income tax system and promote growth in our economy.

I want to ask that each witness on today's panel identify in their remarks today what they believe are the most damaging aspects of our existing tax system from the perspective of growth in the economy and efficient utilization of resources.

Finally, let me just say that we must always remember that tax revenue comes from the economy, and not from Congress. Tax revenue comes from the hard work of American households and businesses, and not from bureaucrats in government. Congress should act as stewards of resources it extracts from American households and businesses, not as primary claimants on those resources.

With that, I now turn to Ranking Member Wyden for his opening remarks.

SUBMITTED FOR THE RECORD BY HON. ROB PORTMAN,
A U.S. SENATOR FROM OHIO

THE WALL STREET JOURNAL
WSJ.com

February 23, 2015

Valeant-Salix Deal Shows Why Inverted Companies Will Keep Winning

By Maureen Farrell

Valeant Pharmaceuticals International Inc.'s $10 billion acquisition of Salix Pharmaceuticals Ltd. is the latest sign that all foreign-owned businesses have a clear edge in deal making.

Valeant inverted back in 2010 through a deal with Canada-based Biovail Corp., which it used to relocate to Canada from the U.S. and cut its tax rate to less than 5%.

Salix tried to follow suit last year, announcing a deal that would have moved its headquarters to Italy and cut its tax bill to the low 20%. But that deal fell apart shortly after the U.S. Treasury cracked down on the economic benefits of tax inversions.

On Monday, Salix became Valeant's target. The deal highlights a simple fact: Companies domiciled in lower tax rate countries will have a competitive advantage as consolidators.

Companies like Valeant with non-U.S. headquarters and lower tax rates can generate immediate cost savings as the deal lowers their target's tax burden. That allows these companies to be more aggressive in the targets they choose and the price they can pay in comparison with similar U.S. companies.

On a conference call, Valeant boasted of a 5% tax rate for the combined venture. Salix paid 32.6% of its profits in taxes in 2013. Jason Gerberry, an analyst at Leerink Research, estimated that Valeant could cut $230 million in costs from taxes at Salix within six months of the deal closing.

All but one of the bidders for Salix had non-U.S. headquarters, according to the WSJ. The one U.S.-based bidder was Mylan Inc., which is in the process of moving its headquarters to the Netherlands through a tax inversion it announced in June.

Valeant bought Salix, its largest acquisition ever, months after losing out on its attempts to acquire Allergan Inc.

The winner in the battle for Botox-maker Allergan: Actavis PLC, a company once based in Parsippany, N.J. but moved to Ireland through a 2013 $5 billion deal with Warner Chilcott PLC. In early 2014, Actavis bought Forest Laboratories Inc., also based in New Jersey, and then landed Allergan in a $66 billion deal, slashing taxes all along the way.

Valeant has grown nearly as rapidly through acquisitions since it moved to Canada. Within two years of inking its deal with Biovail, the WSJ reported that Valeant had made 13 takeover bids and succeeded in 11 of them. That deal making doubled Valeant's market cap to $16.24 billion. Many, but not all of those acquisitions—all several hundred million dollars in price or smaller—were U.S.-based companies.

By late 2012, it announced its first multibillion deal, purchasing Scottsdale, Ariz.-based Medicis Pharmaceutical Corp. for $2.6 billion. The WSJ cited Medicis' 41.6% tax rate in 2011 as a driver of the deal. Analysts then predicted roughly $150 million in tax savings from the deal.

By May 2013, Valeant agreed to pay more than $8 billion for eye-products maker Bausch & Lomb, which had been taken private by Warburg Pincus in 2007. Its financials were private at the time of its sale to Valeant, including its tax rate. (In the small world of pharma inversions, Brent Saunders, Bausch & Lomb's CEO at the time of that sale, is now the CEO of Actavis).

Upon the announcement of the Salix deal, Valeant's stock popped nearly 15% Monday. Valeant market cap now stands at $66.7 billion, as its tax rate basically stays still at 5%.

PREPARED STATEMENT OF LAURA D'ANDREA TYSON, PH.D., PROFESSOR OF BUSINESS ADMINISTRATION AND ECONOMICS AND DIRECTOR, INSTITUTE FOR BUSINESS AND SOCIAL IMPACT, HAAS SCHOOL OF BUSINESS, UNIVERSITY OF CALIFORNIA

Chairman Hatch, Senator Wyden, and other members of the committee, thank you for the opportunity today to address the issue of tax reform and its role in promoting stronger U.S. economic growth and higher wages for American workers.

My name is Dr. Laura Tyson, and I am a professor at the Haas School of Business at the University of California Berkeley. I served as the Chair of the Council of Economic Advisers and as Chair of the National Economic Council under President Clinton. I was a member of President Obama's Economic Recovery Advisory Board and his Council on Jobs and Competitiveness. I am currently an economic adviser

to the Alliance for Competitive Taxation, a coalition of American businesses that favor comprehensive corporate tax reform.

The views in this testimony are my own.

My remarks will focus on corporate tax reform. Over 50 years ago under President Kennedy and perhaps as recently as 30 years ago under President Reagan, the American economy was the most competitive in the world, and the U.S. could design its corporate tax code with little consideration of the global economic environment. American companies derived most of their income from their domestic operations and to the extent they were engaged globally, they were typically larger than their foreign-based counterparts.

But we no longer live in that world. Emerging market economies, falling trade barriers, and remarkable leaps in information and communications technology have expanded opportunities for U.S. companies abroad, but have also heightened global competition among companies to gain market share and lower production costs, and competition among countries to attract investment and jobs. Our corporate tax system was designed for an economy in which U.S. multinational companies earned most of their revenues at home, international competition was relatively unimportant, and most corporate profits were produced by tangible assets, such as machinery and buildings. This is not today's world.

Today, the United States faces growing competition from countries around the world for the activity of global companies. And American companies face significant and increasing competition from foreign-based global companies. Since 2000, the number of U.S.-headquartered companies in the Fortune Global 500 has declined by more than any other country—from 179 to 128. Foreign-based competitors to American companies are *all* headquartered in countries with lower tax rates. Further, multinational companies headquartered in other developed countries typically operate under territorial tax systems under which little or no home-country tax is imposed on their active foreign business earnings. Within the Fortune Global 500, 93 percent of the companies headquartered in other OECD countries are taxed under territorial systems. In addition to tax systems that are more conducive for locating business operations and global headquarters, many other OECD countries offer educated workforces, major universities, and world class infrastructure.

Our corporate tax system makes it harder for U.S. businesses—small and large—to compete with foreign companies, and reduces the competitiveness of the U.S. economy as a place to do business and create jobs. As a result of numerous credits, deductions and exclusions, the current system also results in high compliance costs for businesses—estimated at $110 billion in 2009—and undermines the efficiency of business decisions in numerous ways. There is widespread bipartisan agreement that our corporate tax system is deeply flawed and in need of fundamental reform.

I believe there are ways to reform the corporate tax system that will strengthen the competitiveness of U.S. companies, make the United States a more attractive place to do business, reward work, and reverse the 40-year stagnation of middle class incomes. Such reforms can promote simplicity and efficiency in the tax code and be adopted without increasing the deficit. In the remainder of my remarks, I will suggest changes to current tax rules affecting both the domestic and the foreign-earned income of U.S. corporations to achieve these objectives.

DOMESTIC TAX REFORM

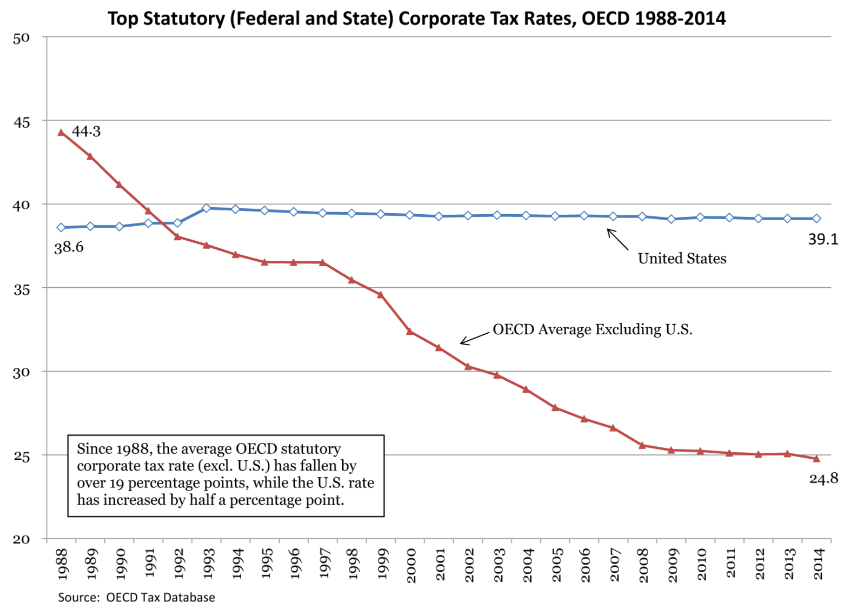
It is important to begin testimony at a hearing about tax reform, economic growth and efficiency by noting that of all taxes, corporate income taxes are the most harmful to economic growth because they reduce the returns to savings and investment.

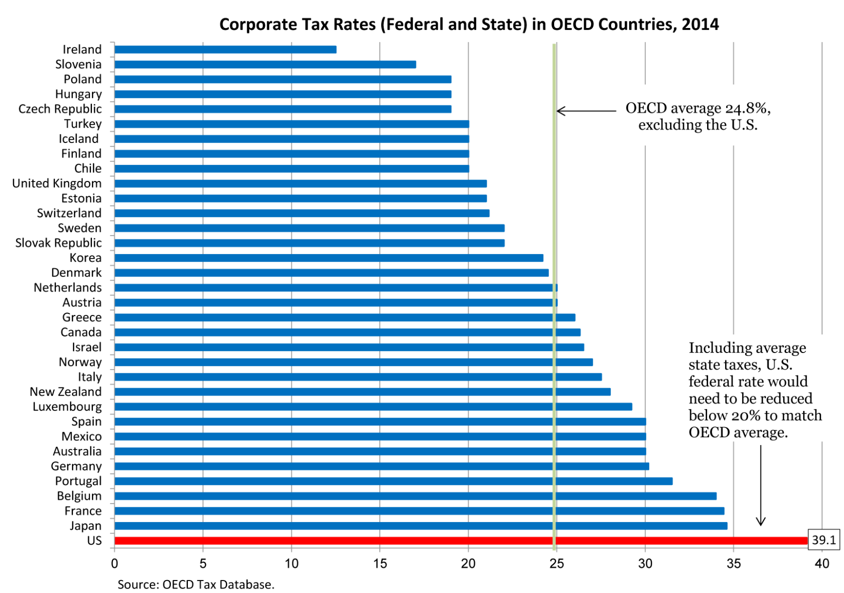
After the 1986 tax overhaul, the United States had one of the lowest corporate tax rates among developed countries. Since then, countries have been slashing their rates in order to encourage investment by their domestic companies, to attract investment by foreign companies, and to discourage their domestic companies from moving their operations and their income to lower-tax foreign locations.

Since 1986, capital has become increasingly mobile, and differences in national (statutory) corporate tax rates have a growing influence on where multinational companies locate their operations and report their income.

In the most recent and audacious move to attract the activity of global companies, the British government has reduced its corporate tax rate from 30% in 2007 to 20% beginning next month—half of the combined U.S. federal and average state corporate tax rate. Further, since 2013, the British government has applied a special

tax rate on income from patents, which phases down to 10 percent in 2017. Currently 12 EU countries have or are implementing such special tax regimes for income from intellectual property—commonly called patent boxes—with tax rates generally in the range of 5 to 15 percent on such income. These patent boxes are recognized as legitimate means to promote innovation and economic development provided the income taxed under such regimes is substantively connected to in-country activities.





The United States now has by far the highest statutory corporate tax rate among developed countries. Other researchers, using a variety of methods have found that even after accounting for various deductions, credits, and other tax-reducing provisions, U.S. companies face higher effective corporate tax rates than most of their competitors.[1]

The relatively high U.S. statutory rate decreases the incentive to invest in the United States by both U.S. and foreign firms. Setting the rate at a more competitive level would encourage more domestic investment by U.S. and foreign investors.

Capital has become increasingly mobile, and differences in national statutory corporate tax rates have a growing influence on where multinational companies locate their operations and report their income. The high U.S. statutory rate magnifies the attractiveness of investing in lower-tax locations and increases the incentive to shift income out of the United States.

It is not possible for the United States to stay competitive as a place to do business with a statutory corporate tax rate that is more than 14 percentage points (58 percent) above the OECD average.

Higher investment in the United States by both domestic and foreign companies would boost economic growth, while the resulting increase in capital—new businesses, factories, equipment, and research—would improve labor productivity and increase employment. That should, in turn, boost real wages over time, as increases in labor productivity have historically been closely related to growth in labor incomes, although this relationship has weakened over time.

Productivity gains in the United States are substantially attributable to the U.S. activities of multinational companies. A Federal Reserve study of labor productivity in the U.S. private sector between 1977 and 2000 found that the U.S. multinational sector accounted for three-fourths of the increase in labor productivity over this period.

American multinational companies are the chief instrument by which our economy competes globally, yet these companies are the most affected by the lack of a competitive tax code. Removing the tax barriers to the ability of these globally engaged companies to be competitive in world markets can pay substantial dividends to the U.S. economy.

In 2012, U.S. multinational companies directly employed 23.1 million American workers, with average compensation of $76,500, 34 percent greater than compensation of workers in non-multinational companies. Through their supply chains, U.S. multinational companies support an estimated 21 million additional U.S. jobs. Spending by the employees of U.S. multinational companies and suppliers is estimated to support a further 28 million jobs. Overall, more than 71 million U.S. jobs are directly or indirectly supported by U.S. companies with global operations.

The competitiveness of globally-engaged U.S. companies matters to the health of the U.S. economy. U.S. multinational companies tend to be large, capital-intensive, skill-intensive, research-intensive and high productivity—all features that contribute to high wage jobs and rising living standards. In 2012, they accounted for about 20% of private sector U.S. jobs, 23% of U.S. private sector GDP, 30% of U.S. private capital investment, and about 76% of all U.S. private sector R&D.

Despite the rapid growth of their foreign markets, U.S. multinational companies still locate significant shares of their real economic activities at home—70% of their value added, 66% of their employment, 73% of their capital investment, and 84% of their R&D. Much of the domestic economic activity of U.S. multinational companies is related to their headquarter functions and has significant local spillover benefits to the broader economy.

Further, foreign direct investment by U.S. multinational companies is not zero-sum—it increases rather than reduces employment, investment, and R&D in the United States. Research has found that each 10 percent increase in foreign employment is estimated to result in a 6.5% increase in U.S. employment. Similar complementary relationships are found between the foreign affiliate operations and the

[1] See, Jack Mintz and Duanjie Chen, "U.S. Corporate Taxation: Prime for Reform," Tax Foundation, February 2015, showing the United States has the second highest marginal effective corporate tax rate of 95 countries in the world, and Phillip Dittmer, "U.S. Corporations Suffer High Effective Tax Rates by International Standards," Tax Foundation, September 2011, which provides a survey of nine different effective corporate tax rate studies that each show the United States is in the highest quartile among countries.

domestic exports, R&D, capital investment, and employee compensation of U.S. multinational companies.

The pro-growth rationale for reducing the U.S. corporate tax rate is compelling. There is some evidence that the growth effects from corporate rate reduction also provide a significant offset to the cost of rate reduction found in conventional estimates that assume no change in the size of the economy. This includes past research by the Joint Committee on Taxation that finds the feedback effect from corporate rate reduction can offset between 12 percent and 28 percent of the conventional revenue cost within 5 to 10 years of enactment.[2] I believe with a full accounting for cross-border investment and income shifting, the offsets from corporate rate reduction are likely to be even greater. But by itself such a cut would reduce corporate tax revenues.

So how should we finance a rate reduction large enough to have a significant effect on the competitiveness of U.S. companies and on the competitiveness of the U.S. as a location for investment without increasing the deficit? Like most economists, I believe that we can and should pay for such a rate reduction mainly by broadening the corporate tax base through the elimination of tax breaks and preferences. Combining rate reduction with base broadening is the approach adopted in the 1986 tax reform and it is the approach advocated by numerous independent bipartisan commissions and think tanks.

Base broadening would not only raise revenues to pay for a rate reduction, it would also reduce the complexity of the tax code and increase its efficiency. The current system of deductions and credits not only reduces corporate tax revenues, it also results in large and economically unjustifiable differences in effective tax rates across economic activities and these differences distort investment decisions, often with harmful effects on productivity and growth.

Given the importance of the statutory corporate tax rate in influencing the location of highly profitable and mobile capital, a significant reduction in this rate that is paid for by broadening the corporate tax base can achieve meaningful efficiency gains and boost economic growth. And over time as growth increases, a revenue-neutral corporate tax reform will increase corporate tax revenues and reduce the deficit.

INTERNATIONAL TAX REFORM

There is also widespread agreement that, in addition to reducing the corporate tax rate and broadening the corporate tax base, the United States should reform the way it taxes the foreign earnings of U.S. companies.

With 95% of the world's consumers located outside of the United States, American companies need to have a presence in foreign markets to compete there. Products need to be tailored to local consumer preferences, shipping costs may make it impractical to export certain products abroad, and the provision of services requires employees in the local market. If a U.S. company isn't established in a given foreign market, a non-U.S. competitor will likely win the business there.

Every other G–7 country and 28 of the other 33 OECD member countries have international tax systems that allow their globally-engaged companies to repatriate their active foreign earnings at home without paying a significant additional domestic tax. This approach, referred to as a participation exemption or territorial tax regime, is grounded in the principle of "capital ownership neutrality"—that is, the amount of corporate tax imposed on a company's active foreign earnings should be independent of the residence of that company's parent.

The current U.S. system, in contrast, is based on a worldwide approach: the foreign earnings of U.S. companies are subject to U.S. corporate tax with the amount owed offset by a credit for taxes paid in foreign jurisdictions. With the adoption of territorial tax systems by the United Kingdom and Japan in 2009, and by thirteen other OECD member countries since 2000, the U.S. international tax system now lies far outside of international norms.

The combination of a relatively high corporate tax rate and a worldwide approach to taxing active foreign earnings disadvantages globally-engaged U.S. companies when they compete in third country markets with multinational companies headquartered in territorial systems or their local competitors. U.S. multinational com-

[2] Joint Committee on Taxation, *Macroeconomic Analysis of Various Proposals to Provide $500 Billion in Tax Relief,* (JCX–4–05), March 1, 2005.

panies cannot bring profits home from their foreign affiliates without paying the high U.S. corporate tax rate, while most foreign-based competitors pay only the local tax rate on such profits.

This combination also reduces the competitiveness of U.S. multinational companies in cross-border acquisitions. In such acquisitions, a U.S. acquirer of a foreign company owes a U.S. tax on the resulting foreign income stream that would not be owed by a foreign acquirer headquartered in a territorial system.

If the United States were to adopt the type of territorial systems used by the countries with which we compete, then U.S. multinational companies would face the same effective tax rates in foreign markets as the foreign firms with which they compete in these markets.

Current U.S. law attempts to blunt these competitive disadvantages for U.S. multinational companies through deferral—allowing U.S. parent companies to defer the payment of U.S. corporate tax on the foreign earnings of their foreign subsidiaries until they are repatriated.

Under the current U.S. corporate tax system, U.S.-based multinational companies have a strong incentive to keep their foreign earnings abroad. Not surprisingly, as their foreign earnings have grown—international operations now account for more than half of the income of U.S. multinational companies—and as foreign corporate tax rates have plummeted, the stock of foreign earnings held abroad by U.S. multinational companies has increased. These accumulated foreign earnings are currently estimated at about $2.1 trillion, some of which has been reinvested to expand their foreign operations and some of which is held in cash and other liquid investments.

For the reasons cited earlier, the competiveness of globally engaged American companies matters to the health of the U.S. economy in many ways. Deferral is essential to maintaining the competitiveness of these companies as long as the United States relies on a worldwide approach to corporate taxation and has a relatively high statutory corporate tax rate.

But deferral is not without significant costs for both U.S. multinational companies and for the U.S. economy. Deferred earnings are "locked out"—the government receives no tax revenues from them and they are not directly available for use in the United States by the U.S. parent companies. Moreover, U.S. companies incur costs from locked out earnings due to the suboptimal use of these earnings and from higher levels of domestic debt. Treasury economist Harry Grubert and Rutgers economics professor Rosanne Altshuler estimate that the hidden cost of retaining profits overseas is about 7 percent of incremental deferred foreign income and these costs grow as the stock of that income grows.[3] These costs are a drag on the competitiveness of globally-engaged U.S. companies. The current system undermines the ability of U.S. companies to compete with foreign companies in the acquisitions of U.S. companies. It also makes investments by U.S. shareholders in U.S. companies with foreign operations less attractive relative to investments in foreign companies that can repatriate profits without a corporate tax penalty.

A participation exemption or territorial system similar to those in other developed countries would allow U.S. multinationals to put their foreign earnings to work in the United States and to compete more effectively in foreign markets, which today represent about 80 percent of the world's purchasing power and which will become even more important in the future.

As part of comprehensive corporate tax reform, the United States should adopt a territorial approach to taxing the foreign earnings of U.S. multinational companies. Such a system would provide a level playing field that supports U.S. companies' global competitiveness. It would also eliminate the rising costs associated with locked out earnings and boost their repatriation, with significant benefits for U.S. output and employment.

Based on recent research that incorporates conservative assumptions, my colleagues and I estimate that under a territorial system, U.S. companies would repatriate an additional $100 billion a year from future foreign earnings, adding about

[3] Harry Grubert and Rosanne Altshuler, "Fixing the System: An Analysis of Alternative Proposals for the Reform of International Tax," National Tax Journal, September 2013.

150,000 U.S. jobs a year on a sustained basis.[4] We also estimate that under a transition plan for taxing the existing stock of deferred foreign earnings, similar to one proposed by former Ways and Means Chairman Dave Camp, U.S. multinational companies would repatriate about $1 trillion of these earnings, adding more than $200 billion to U.S. GDP and about 1.5 million U.S. jobs in the first few years following enactment.

A territorial tax system does have one potential disadvantage: it could strengthen the existing incentives of U.S. multinational companies to shift their profits to lower-tax jurisdictions. The exceptionally high U.S. corporate rate, significant cuts in foreign corporate tax rates, the rise of competitors based in territorial systems, the deferral option, and the rising importance of patents and other intangible assets already make these incentives powerful, and income-shifting by U.S. multinational companies is already substantial.

Other developed countries with territorial systems have adopted a variety of exceptions and anti-abuse rules to discourage income shifting by their multinational companies and to safeguard their domestic tax base with successful results. These include rules aimed at taxing foreign passive income on a current basis and "thin cap" rules that limit excessive interest expense. Some countries have not extended their territorial systems to foreign affiliates in "black listed" tax haven countries. In those black listed countries, the foreign tax credit system with deferral applies. If base erosion were a particular problem of territorial systems, one might have expected some of the 28 countries in the OECD using territorial tax systems to switch to a worldwide tax system like the United States. However, only two OECD countries have ever switched to a worldwide tax system (Finland and New Zealand) and both subsequently switched back to territorial systems.

Recent discussions of base protection measures in the United States have considered the imposition of a minimum tax under which the foreign income of a U.S. multinational company would be taxed currently in the United States unless the foreign rate of tax it pays in the foreign jurisdiction exceeds some specified minimum rate. This is not a form of base protection measure that has been adopted by other OECD countries.

The Obama Administration's proposed 19 percent minimum tax on future foreign earnings is of this form. It would end deferral and require that the foreign earnings of a U.S. company be taxed at an effective rate of at least 22.4 percent in every foreign jurisdiction in which the company operates or else it would have to pay an additional tax to the United States at the time this income is earned. (The difference between the stated rate of 19 percent and the actual result of 22.4 percent is due to the fact that the minimum tax would continue to apply until 85 percent of the foreign effective tax rate exceeded 19 percent.) Tax owed to the United States would be computed on a tax base that excludes a risk-free return on equity invested in active assets. Some have suggested that the risk-free return might be defined as the return on U.S. Treasuries, areturn significantly lower than the return earned on equity investments by U.S. corporations both at home and abroad.

It is notable how the minimum tax approach, which imposes a penalty on lower taxed foreign earnings, varies from the incentives being offered in other countries like the United Kingdom, with the rule of law, educated workforces, major research centers and universities, and world class infrastructure. These countries are using tax policy as a "carrot" to attract the income and the operations of U.S. companies with significant intangible assets and the positive externalities associated with them—including spillover effects boosting innovation, productivity, and wages. The minimum tax is a "stick" approach to capturing the global income of such companies. But this approach cannot succeed in the long run when there are foreign-headquartered companies capable of operating in the friendly, carrot jurisdictions. Ultimately, the minimum tax approach will drive the real economic activity of U.S. companies, including the positive externalities associated with them and their tax base, to these foreign locations and foreign owners.

Adoption of a minimum tax of this magnitude and structured in this manner would harm the global competitiveness of American companies that earn a large share of their income in global markets. A significant share of corporate income earned by U.S. multinationals in Europe would likely be subject to the minimum tax. Sixteen of the 28 EU countries had statutory tax rates below 22.4 percent in

[4] Eric Drabkin, Kenneth Serwin, and Laura D'Andrea Tyson, "Implications of a Switch to a Territorial Tax System in the United States: A Critical Comparison to the Current System," Berkeley Research Group, November 2013.

2014, and effective tax rates are likely to be still lower. Further, while the competitors of American companies could fully avail themselves of the benefits of the current and planned patent boxes in 12 EU countries with tax rates in the 5 to 15 percent range, American companies would pay a non-competitive rate as high as 22.4 percent on such income.

In such situations, U.S. companies would be at a competitive disadvantage in acquiring foreign companies with desirable intellectual property. Instead, as a result of their significant global tax disadvantage, existing U.S. companies with such property would become attractive targets for foreign acquirers and would have even stronger incentives to move their headquarters, their R&D and their future intellectual property to lower-tax foreign locations with territorial systems. And start-up companies based on innovations and intellectual property developed in the U.S. would have an incentive to incorporate in such locations.

In a world with highly mobile capital, especially highly profitable intangible capital, the United States should move to a hybrid territorial system with base protection measures consistent with the practices of its major trading partners.

It would be ill-advised for the United States to adopt unilateral approaches, such as the minimum tax approach proposed by the Obama Administration, that disadvantage U.S. multinational companies, precisely when developed countries are adopting patent boxes and other preferential tax measures to attract the income and activity of these companies.

A territorial system along with multilateral cooperation to combat base erosion can best protect our tax base and that of our trading partners, while reducing the risk of double taxation and the creation of barriers to foreign investment. The ongoing OECD Base Erosion and Profit Shifting project provides a venue for adoption of base protection measures on a multilateral basis and should be considered as the appropriate forum for developing such measures. Recentdevelopments show that the OECD project is encouraging greater multilateral cooperation in international tax policy.

CONCLUSION

The United States last reformed its business tax code in 1986, when it had one of the lowest corporate tax rates in the world and the competitive dynamics of the global economy were very different. It is time for another comprehensive corporate tax reform that, without increasing the budget deficit, reduces the tax rate, broadens the tax base, makes the corporate tax system simpler and more efficient, and adopts a hybrid international system with effective safeguards to protect the U.S. tax base.

QUESTIONS SUBMITTED FOR THE RECORD TO LAURA D'ANDREA TYSON, PH.D.

QUESTIONS SUBMITTED BY HON. ORRIN G. HATCH

Question. Dr. Tyson, a little over a year ago, you co-authored a report on implications of the United States switching to a territorial tax system and stated that "Our research finds that transitioning to a territorial tax system similar to those used by other advanced industrial countries would generate a significant amount of economic growth and create jobs here in the United States. As lawmakers in Washington look for policies to boost economic growth and job creation, reforming the corporate tax code to allow American businesses to invest their foreign earnings in the United States now and in the future is an opportunity that should be considered." I have two questions for you, Dr. Tyson. First, could you elaborate on the report and on economic growth and job creation that can result from switching to a territorial tax system? And, second, I wonder if you could comment on the Administration's recent proposal to impose a 19 percent minimum tax on foreign earnings of U.S. multinationals, including what effect you think such a move would have on existing and future U.S. companies.

Answer. Our study found that by transitioning to a territorial system there would be a large increase in repatriated earnings that would otherwise be held abroad under the current system. Returning these earnings for use in the United States by these companies will lead to greater economic activity in the United States and more jobs. We looked at the impact of a 95 percent exemption for repatriations of active foreign earnings assuming no reduction in the 35-percent corporate tax rate.

Our study estimated the increase in U.S. economic activity through two channels. One channel is through the repatriation of foreign earnings that has accumulated abroad prior to the enactment of a territorial system and the second channel is through the ongoing repatriation of future foreign earnings.

Regarding the first channel, at the time of our study approximately $2 trillion were classified by U.S. companies as indefinitely reinvested abroad. More recent data show that this has increased to $2.3 trillion at the end of 2014. The study assumes that the change to a hybrid territorial system would be accompanied by a transition plan comparable to that proposed by former House Ways and Means Committee Chairman David Camp in 2011. Based on this assumption, the study predicts that U.S. companies will repatriate about $1 trillion of these earnings that would otherwise be deferred and held abroad indefinitely. This increase in repatriations, in turn, will increase investment spending directly by some repatriating firms and will increase consumption spending by shareholders. Together we estimate these increases in spending will increase U.S. GDP by at least $208 billion and will create at least 1.46 million jobs.

The second channel represents the ongoing benefits of a territorial system. We estimate that U.S. companies will increase their repatriation of future foreign earnings by an estimated $114 billion per year. The resulting increase in spending from the return of these earnings will increase U.S. GDP by $22 billion annually and create 154,000 new jobs on a sustained basis.

Regarding your question on the minimum tax, I believe the minimum tax at the rate and structure proposed by the Administration would harm the global competitiveness of American companies. U.S. companies seeking to operate in foreign markets would be at a disadvantage relative to their foreign competitors who could operate free of any additional taxes imposed by their home governments. The foreign competitors of American companies would be able to benefit from incentives offered by the foreign countries in which they operate. U.S. companies, however, would find any foreign tax savings that they could achieve would be lost through higher U.S. taxes.

U.S. companies would be at a competitive disadvantage in acquiring foreign companies with desirable intellectual property. Instead, as a result of their significant global tax disadvantage, existing U.S. companies with such property would become attractive targets for foreign acquirers and would have even stronger incentives to move their headquarters, their R&D and their future intellectual property to lower-tax foreign locations with territorial systems. And start-up companies based on innovations and intellectual property developed in the U.S. would have an incentive to incorporate in such locations.

The net result would be that economic activity that would otherwise have been undertaken by U.S. companies will instead be driven to foreign locations and foreign owners, with the U.S. losing the benefit from the ownership of highly desirable intellectual property and the positive externalities associated with them.

Question. Dr. Gravelle's testimony argues that ". . . it should not be surprising that a revenue neutral tax reform is unlikely to have a significant effect on output, given the necessity of base broadening to lower rates." In support of the argument, a study is cited that assessed the Tax Reform Act of 1986—or TRA86—and concluded, according to Dr. Gravelle's summary, that it "left incentives roughly unchanged." Given that, you wouldn't expect much in terms of growth effects from a revenue neutral reform exercise. Before getting to my question, I would note that the 1997 study in question does conclude that, at the time, ". . . saying that a decade of analysis has not taught us much about whether TRA86 was a good idea is not at all the same as saying it was not in fact a good idea. We think it was." Moreover, since that analysis, a Nobel Prize winning economist and his coauthor have provided evidence that tax reforms in 1986 coupled with changes in regulations governing retirement holdings help account for large long-run increases in corporate equity values relative to GDP, something that I would think is a positive for the economy and everyone with a retirement account. My question to the Panel is whether everyone agrees that it is "simply difficult, if not impossible" to design a revenue neutral tax reform plan that would have significant enough effects on incentives to increase economic growth?

Answer. The economy today is much different than in 1986. The importance of globalization is far greater, as is the mobility of capital. As a result, it is quite likely that capital investments are far more responsive to differences in taxation than they were in 1986. Highly profitable intangible assets in particular are likely to be espe-

cially responsive to differences in the statutory tax rate across countries. This suggests that rate lowering reforms paid for through base broadening may confer larger benefits today than at the time of the Tax Reform Act of 1986.

My own research suggests that adoption of a territorial tax system as part of revenue-neutral tax reform can provide meaningful improvements to incomes of American families and U.S. job creation. In addition, a transition to a territorial tax system would make U.S. companies more competitive in foreign markets and allow them to increase employment opportunities in the United States.

For all these reasons, I believe the economic case for tax reform is even stronger today than at the time of the 1986 Tax Reform Act.

Question. Dr. Tyson, you have written that corporate taxes are harmful to economic growth. You have also written that with "highly mobile capital, it is far easier to collect taxes from individual citizens and resident shareholders than from multinational companies." I wonder whether it makes sense to treat all business entities as pass-through entities for tax purposes. For example, master limited partnerships, which are publicly traded, are taxed as pass-through entities, meaning that owners are taxed on their income. My question, Dr. Tyson, is whether you believe that we should apply that type of regime to all business entities?

Answer. Increased integration of the corporate and individual income tax systems would reduce or eliminate a number of distortions caused by the current double tax system including the tax incentive to finance with debt rather than equity, the tax disincentive to raise capital from public markets, and the tax incentive to retain or distribute earnings according to the relationship of corporate and shareholder tax rates. Increased integration would reduce or eliminate the current law disadvantage to corporate organization relative to pass-through or S corporation form. Depending on the design, corporate integration also may reduce incentives for corporations to shift profits to low-tax foreign jurisdictions.

There are a variety of ways that the corporate and individual income tax systems could be integrated. In practice, countries with corporate integration systems have not taxed retained corporate earnings at the shareholder level. The 1992 Treasury study discusses the possibility of a shareholder allocation system that would treat corporate shareholders as partners but would retain the corporate income tax as a form of withholding tax.

The shareholder allocation approach was not Treasury's preferred method of corporate integration in the 1992 report for both policy and administrative reasons. The policy concerns related to the treatment of tax preferences and foreign tax credits while the administrative concerns related to the need for corporations to amend their charters, keep capital accounts, and report tax information to shareholders like partnerships.

I believe the Treasury shareholder allocation model deserves a fresh look, particularly in the context of tax reform that would eliminate many corporate tax preferences and move towards a territorial tax system, as such a reform would obviate many of the policy concerns raised in the Treasury study. In addition, we have had over 25 years of experience with publicly traded partnerships that maintain capital accounts and report tax information to large numbers of shareholders that buy and sell shares throughout the year. In addition, it is possible to simplify audit, reporting and other administrative matters for large partnerships, such as the elective large partnership rules enacted in 1997.

PREPARED STATEMENT OF HON. RON WYDEN, A U.S. SENATOR FROM OREGON

Just two weeks ago, the Finance Committee heard from two former Senators—a Republican and a Democrat, both architects of the 1986 Tax Reform Act—about an approach to tax reform that worked. It turned the impossible into the possible. It was modern, it was targeted, and it found smart ways to spark economic growth.

Their approach gave equal tax treatment to wages and wealth, which is crucial for middle-class fairness. It preserved and expanded important policies that rewarded hard work, helped families buy homes, and made it easier to afford college. And they avoided partisan processes like budget reconciliation that put the outcome at risk.

Everybody here has been a part of umpteen academic conversations about tax reform. Two weeks ago, this committee heard about an approach that works. In my

view, it makes sense to build on that bipartisan wisdom. So let's take on the challenge of developing a new, modern plan that fits today's economy.

There is a long list of examples of where our broken tax system needs fixing. One that comes up in nearly every Oregon town meeting I have is the skyrocketing cost of childcare. For a long time, people have looked at home mortgages, college tuition, and retirement savings as the big-ticket expenses for most families. Parents today know that list is incomplete without childcare.

But the programs in the tax code intended to make childcare more affordable haven't kept up. Too often, their benefits don't cut it. A lot of families get no help at all. For many others, it's only a meager level of assistance. So a lot of parents are having to make a difficult choice. Do they both continue working and take on the huge expense of childcare? Or will one of them have to sacrifice their career to stay home? That's a barrier to work that tax reform should demolish.

Just like in 1986, it's time again to give fair tax treatment to wages and wealth. The code punishes middle-class wage-earners by taxing their income at a higher rate than investments. Leveling the playing field is a matter of basic fairness. We heard two weeks ago that policymakers recognized that fact in 1986, so they should recognize it again today.

The tax code also needs to encourage more investment in the U.S. It should do more to drive innovation, support manufacturing, and draw high-skill, high-wage jobs to our shores. Today's broken code puts the U.S. at a competitive disadvantage in the world, and that needs to change.

There's another important lesson from 1986 to remember. It would be a costly mistake for tax reform to heap a heavier burden on America's middle class. That's a surefire way to slow down growth and set middle-class families back. A lot of families who struggle to make ends meet find help through the tax code. So let's not make life harder for them. It makes a lot more sense to take the proven, modern approach to tax reform that gives everybody a chance to get ahead.

COMMUNICATION

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Statement for the Record

Senate Finance Committee Hearing on Tax Reform, Growth, and Efficiency

February 24, 2015

Chairman Hatch and Members of the Committee:

These tax reform recommendations are made as part of a balanced program of both tax policy and budget policy actions to restore a sustainable Federal fiscal process. They focus primarily on business tax reform issues, particularly for small businesses, because of their greater importance in promoting economic growth, and because both the Administration and Congress have suggested them as a starting point for any reform.

Basic Tax System Principals for Economic Growth:

- **Simplify and coordinate our overly complex tax code to improve voluntary compliance, provide equitable treatment for all taxpayers, and reduce both taxpayer and IRS administrative expense.**
- **Make sure business tax reform provides incentives for the growth of small businesses, who provide half of all jobs, as well as for large corporations.**
- **Encourage long-term direct business investment by taxing only *real* economic income, not the effect of monetary inflation by adjusting all tax code provisions to reduce inflationary distortions.**
- **Encourage *domestic* investment and job creation to the greatest extent possible within the limits of international agreements.**
- **Assure that any tax reform provides adequate overall revenue to gradually reduce our national debt and restore long-term fiscal stability.** Unfortunately, the "bottom line" is that tax reform needs to be at least revenue neutral, and will need to be somewhat revenue positive overall to reduce our debt and unfunded future obligations. Although limited deficit spending can stimulate the economy, most economists agree that continuing deficits and our current $18 Trillion national debt reduce economic growth, are a very real threat to the future stability of our economy. Please see our related recommendations on budgeting and *Fiscal Reforms for Sustainable Government* on our website at *www.NationalSmallBusiness.net.*

Background:

Taxes are *not* the cause of our current economic and under employment problems. With the exception of payroll taxes, most American businesses pay Federal taxes only when they are profitable. The current federal tax level on individuals and "pass-through" business entities is lower than it was during times of economic prosperity and growth, and is lower than most other leading industrial nations. The stated tax rate on large corporations appears higher than other nations, but when adjusted for U.S. business tax incentives and other taxes imposed by foreign countries, such as value added taxes, it is similar to other leading industrial nations.

Even at a time of record corporation earnings, corporation income tax revenues have fallen from 5.0% of gross domestic product in 1952 to only about 1.6% today. Some of this reduction results from smaller corporations converting to subchapter S corporations whose income is reported as personal income tax. Some of it also appears to result from larger corporations avoiding taxes by shifting taxable income to foreign countries with lower tax rates.

For the past 10 years, most Federal tax rates have been lower than historical averages, particularly on the very wealthy who are receiving an increasing percentage of all income. This is a major cause of our spiraling debt. Lower tax rates, particularly on capital gains and stock dividends have also encouraged financial speculation which was a major cause of the 2008 recession. But as the last 10 years have proven, lower tax rates did not promote sustainable domestic economic growth.

1. Tax Expenditures and Special Tax Rate Recommendations

Review all tax expenditure provisions and special tax rate incentives for their *true value* as an economic, employment, social, or environmental incentive. All tax expenditures and special tax rate provisions without fixed expirations should be re-evaluated at least every 10 years for possible modification or progressive elimination. Pass multi-year targeted tax incentives such as business deductions, credits, and accelerated write-offs that are *proven* to effectively support *direct domestic* business investment and employment. To obtain the best economic return from tax expenditures, pass them well in advance, and do not waste resources on retroactive incentives.

Tax reform discussion in the 113th Congress ended unsatisfactorily with only a last minute 1 year extension of basic business and investment incentives, most of which have already expired. Tax law, including tax expenditure incentives, can be a major factor in economic decisions by both businesses and individuals. Tax policy is also one of the few remaining strategic tools to provide targeted economic incentives for domestic economic growth. Businesses and investors often focus on short term profit, rather than on the long-term sustainability of their business; the health of the national economy; or concern for the environment. Tax policies that overly "broaden the base and reduce the rate" would limit the ability of Congress to provide strategic incentives for long term economic sustainability and international competitiveness.

Flat tax structures tend to encourage short term speculation instead of long term direct investment. They also encourage movement of investment capital anywhere in the world where the potential return is highest. Flatter tax brackets also benefit wealthier investors, particularly if capital gains are kept at a lower rate. This would result in an increasingly economically segregated national economy, increased unemployment, and lower total tax revenue and would further increase our unsustainable national debt.

Reducing most current tax expenditures in order to reduce maximum tax rates would probably also significantly increase the effective tax burden on middle income and small business taxpayers while reducing tax revenue from large corporations and the very wealthy. Most tax expenditures, including deductions, credits, and preferential tax rates are limited either by specific maximum amounts, or maximum overall income levels for which the provisions apply. These limits are in place to obtain the greatest economic or policy impact with the least loss of tax revenue, and often have the greatest incentive effect and benefit for middle income taxpayers. Because of the large and growing percentage of total taxable income going to the upper 1% of all citizens, any reduction in the progressivity of personal tax rates on higher incomes will eventually result in an overall reduction in tax revenues.

Even though some tax expenditures can have high value in stimulating economic activity with long term benefits, many provide little benefit in relation to their revenue cost, and some are pure "pork" that benefits a small number of businesses or individuals. Existing Congressional data does not provide an adequate decision making data matrix for Congress to accurately evaluate existing tax expenditures, deductions, and rate preferences. We recommend that the House and Senate Budget Committees and Senate Finance and House Ways and Means Committee jointly request the CBO or JCT to develop a current comprehensive analysis of the economic benefits of all tax expenditures. The report should include at a minimum—

- A summary of the tax expenditure or rate preference, and original reason for it.
- The tax revenue cost over 10 *and 20* year periods.

- An estimate of who is actually benefited by the provision, by number and type of taxpayers and by income level; or type of business and total employment and the national economic importance of the provision.
- An evaluation of the total secondary economic benefits and the potential economic multiplier for the expenditure.
- The effectiveness of the tax expenditure in actually *causing* the desired activity and the potential negative effects of elimination.
- An evaluation of whether there is still a current need for the tax expenditure.

2. Tax Simplicity, Clarity, and Efficiency Recommendations:

One of the key goals of tax reform should be to simplify the complexity of the current code, and provide greater tax system clarity and equitability for different taxpayer entities. The current code, which was built on successive layers of changes by past Congresses, has become too complex with too many adjustments, limitations and phase-outs for taxpayers to understand and comply with. Many provisions either purposely or unintentionally negate or limit the effects of other provisions.

A. Increase the role of the Joint Committee on Taxation and Treasury-IRS in assisting Members of Congress in the ongoing development of a simpler and better coordinated federal tax code. The complexity of the tax code is the result of many decades of changes and additions by individual Members of Congress layered on top of prior legislation without overall coordination. Many of these provisions conflict with similar or even contrary provisions in existing code. Other provisions have become outdated by changes in technology or business practices. This complexity makes it difficult for taxpayers, and even professional tax preparers, to understand and comply with the code. The complexity also increases the administrative burden on the IRS and makes it difficult for them to provide good taxpayer assistance and assure filing accuracy and taxpayer compliance. Often the IRS has to resolve legislative issues with hundreds of pages of detailed regulations which increases the administrative burden on the IRS, and often just further increases complexity for the taxpayer. JCT and the IRS should develop a joint working group to identify existing code issues requiring better legislative clarity or coordination and a process to develop legislation to resolve them.

B. Revitalize the management and business system reforms of the Internal Revenue Service to provide better taxpayer assistance for an efficient and equitable administration process. The ability of the IRS to properly and efficiently administer the tax code is currently hindered by incomplete improvements to vital business systems such as data processing and communication technology. The IRS is also facing increased administrative responsibilities, such as the ACA and FATCO, combined with declining budget allocations, and heavy turnover of key staff. With budget cuts, training has been reduced and staff expertise has declined. This is resulting in declining levels of performance in many areas and increased burdens on taxpayers and return preparers. The combination of a complex tax code, declining taxpayer education and assistance, and inadequate IRS budgets will eventually threaten accurate and equitable enforcement of the law. If this happens, it will also reduce collection of the revenue needed for all other Federal programs and services.

The Congress and Administration need to recommit to the goals of the 1998 IRS Reform and Reorganization effort by providing better support for improvements to technology systems and stronger management emphasis on business process reengineering and greater efficiency in the tax administration process. Commissioner Koskinen is doing a good job trying to identify and resolve problems with the limited resources of the agency. But, the IRS needs increased Congressional budget support and better proactive communication on agency issues. The Administration also needs to complete revitalization of the IRS Oversight Board with additional nominations to assist IRS management with continuing organizational improvements and communication with the Congress.

C. Provide standard tax code definitions and coordinated inflation adjustments for all limit and rate bracket provisions. Multiple definitions exist for many items of income and types of credits or deductions. These need to be standardized and simplified. Congress needs to review the Internal Revenue Code for fixed limitations and provisions which are long overdue for inflationary adjustments, such as the business gift limitation, and update them. Then, adopt a standard inflationary adjustment provision to replace the myriad of specific provisions in the code for rate brackets and dollar limitations which should have periodic adjustment. The provisions should require a reasonable minimum inflation change before a periodic adjustment is made.

D. Remove outdated administrative burdens in the tax code such as the remaining "Listed Property" reporting requirements on standard business computers and communication equipment. The Small Business Jobs Act of 2010 removed the outdated usage record keeping requirements for employer provided business "cell phones," but failed to remove the equally burdensome and illogical requirements on similar common business communication devices and portable computers. With the merging of cell phones, computers, and cameras into single inexpensive devices, the remaining listed property reporting requirements and deduction limitations for business "computers" when used outside a "qualified office" also need to be removed. As with cell phones, if there is a legitimate business need for a mobile computer, there is usually little or no additional marginal cost for any personal use of the same equipment, because most hardware is replaced long before the end of its potential usable life. The new IRS repair regulations allow a taxpayer to elect to expense replacement items costing less than $500, which makes the listed property requirements even more illogical.

E. Protect each state's right to use sales, transaction, or consumption taxes, and simplify retailer remittance of interstate consumption taxes, by passing marketplace equitability legislation. Congress should support effective and efficient interstate collection of state sales and use taxes, and provide an equitable business environment for those businesses that properly collect state sales taxes, by passing marketplace fairness legislation, along with a long-term renewal of the Internet Tax Freedom Act. A federal sales tax administration law would not create any new taxes, but simply enable states that have chosen to use consumption based taxes to efficiently collect them on the growing volume of Internet purchases. It is similar in principle to the many agreements the federal government has with states and foreign countries to exchange tax information to help stop tax evasion. Congress should simplify calculation and reporting of sales taxes for interstate sellers by enabling a single, uniform electronic tax reporting and payment processing system.

3. Capital Gains Tax Reform Recommendations:

Congress should encourage long term capital investment by adjusting the calculation of long term capital gain on assets held more than 5 years to remove taxation of the phantom gain from monetary inflation, to reflect the true constant dollar value of the gain. Calculation of the adjustment should be simple, and require only a multiplication of the dollar gain using IRS supplied existing data on the cumulative inflation change from the year of purchase to the year of sale.

The current personal income tax code provides a lower tax rate for a "long-term capital gain" on an asset held for 366 days. This actually progressively penalizes investments held more than one year because of its failure to adjust for monetary inflation over the investment life. The President's 2015 budget proposal to increase the capital gains tax rate for top bracket earners to 24.2% or 28% total, including the 3.8% ACA surtax, would make the inflationary distortion even greater. And, even owners of relatively small businesses would generally be in the maximum rate bracket in the year they sell their business or business property. And most states also add an additional state tax of up to 10% on capital gains. The investments that America needs to build a sustainable economy by starting or growing businesses, or building business infrastructure, are not 366 day investments. True long term business investments may not provide a capital return for 10, 20, 30, or 40 years or longer.

The current law also provides the same tax treatment for individuals to invest in speculative secondary market investments such as traded stocks which, except for new offerings, provide no new economic investment or funding for business growth. Ironically, secondary economic investments actually can have a greater tax benefit because they can be easily sold after 1 year when the tax benefit is greatest. Where the asset is a business or investment property, this short tax incentive peak encourages the owners to focus on short term "paper" profitability and the potential for resale, rather than long term growth and sustainability. This 366 day peak incentive also encourages financial speculators to purchase and sell off asset rich businesses, rather than operating and growing them.

Almost all other value comparisons that extend over long periods such as economic statistics, government budgets, and other tax code provisions, are adjusted to remove the effect of inflation. Although compensating for inflation distortion is part of the justification for having a lower tax rate on capital gains, this is a clas-

sic case where a "one size fits all" approach does not work. To illustrate the progressive disincentive for long term investment under current law, the table below shows the real, after inflation, return and effective tax rate on a sample investment. It assumes a business was started, or an asset was purchased, for $1M in 1962 and held for periods of 2 to 50 years before being sold for $2M. The taxable gain in each case is $1M and the true constant dollar value of the gain from the year of investment was calculated using U.S. Bureau of Labor Statistics CPI Inflation data. As the chart below shows, *the **effective tax rate** on the real inflation adjusted gain grows significantly after 5 years, particularly at a higher tax rate.*

Holding Period	Capital Gains Tax paid at a 15% rate	Actual Real Constant Dollar value of the $1M gain	Effective Tax Rate* on real gain at a 15% rate	Capital Gains Tax paid at a 28% rate	Actual Real Constant Dollar value of the $1M gain	Effective Tax Rate* on real gain at a 28% rate
2 years	$150,000	$948,800	15.8%	$280,000	$948,000	29.5%
5 years	$150,000	$902,200	16.6%	$280,000	$902,200	31%
10 years	$150,000	$782,800	19.2%	$280,000	$782,800	35.8%
20 years	$150,000	$610,050	24.6%	$280,000	$610,050	45.9%
30 years	$150,000	$419,900	35.7%	$280,000	$419,900	66.7%
40 years	$150,000	$181,900	82.5%	$280,000	$181,900	154%
50 years	$150,000	$131,400	114.2%	$280,000	$131,400	213%

* The effective tax rate is the current code tax amount on the paper gain, divided by the actual inflation adjusted value of the gain.

At a 28% tax rate, the federal *tax would actually exceed the total real economic gain* after only about 35 years. Although an adjustment should really be made on all assets held for more than 5 years, the scoring cost of initial correction legislation could be reduced by limiting the adjustment to business property or direct business investments where the taxpayer is and active owner.

4. Small Business "Pass Through" Entity Tax Reform Recommendations:

A. To provide targeted small business growth incentives, with the lowest revenue cost, Congress should differentiate in the personal income tax code all net "pass-through income" from a business in which the taxpayer *materially* participates as "Small Business Operating Income" (SBOI). This would include *non-salary* income from partnerships, "S" corporations, farms, and other business income reported on a personal return. Stimulating economic growth through the tax code is complicated by the fact that there are two business taxation systems. Most large businesses pay their taxes through the corporate tax system, which in 2010 collected about 9% of total federal tax revenues. Most smaller business are subchapter "S" corporations, partnerships, LLCs, Schedule "C" or Schedule "F" filers, and pay the taxes on their business operating income on their personal tax return along with their other personal income. The SBA estimates that over 90% of small businesses are pass-through entity taxpayers. As a result, the provisions and rates of the personal tax code can have an unintended negative impact on small business growth. When Congress considers economic stimulus measures or tax system reforms, it is important that both business tax systems be changed in unison. But, unless real pass-through business income can be identified and treated separately, any attempt to provide equitable treatment will result in significant revenue loss from non-business taxpayers.

In 2011 Congress raised effective tax rates on higher income individuals, many of whom are small business owners. Proposed reductions in the large corporation tax rate to 28% or less will potentially shift an even greater percentage of the tax burden onto small businesses and individuals. This will have a significant impact on small and midsize businesses that report their business operating income on the owner's personal return, on top of their other salary and investment earnings. This often results in the small business income being taxed at the highest individual tax rates. When compared to the low tax rates on dividends and capital gains on highly liquid "traded stocks," it is difficult for people to justify the higher risk, and lower after tax return, of most small business investments. Because of their more limited ability to borrow capital, small business operating income must often be reinvested in the business for survival and growth, leaving little cash available to pay the taxes. It is estimated that two thirds of all small business employees' work for firms with 20 to 500 employees, and many of these firms are likely to be impacted by the higher personal tax rates.

Income resulting from direct business investment and active operation of a business which employs workers and sells a product or service has a much higher value to our overall economy than income resulting from passive speculative activity. By differentiating income from active businesses, Congress can provide targeted tax stimulus with less revenue loss, by not having to provide the same tax treatment on gains from passive investments such as traded stocks.

B. Congress should enact a lower maximum tax rate, comparable to proposed "C" corporation rates, on up to $500,000 of Small Business Operating Income reported on a schedule K1, C, or F, for a business in which the taxpayer materially participates. Matching AMT language must also be enacted to prevent the AMT from nullifying the effect of the provision. This would allow a limited amount of small business income to be taxed at lower rates to encourage equity reinvestment to finance business growth. Calculating the tax on this income separately from other personal wage and investment income will also prevent the taxpayer's other income from pushing the tax rate on the business income into the highest personal rate brackets.

The Personal Alternative Minimum Tax must also be adjusted for pass-through Small Business Operating Income because it is much different than the "C" corporation AMT, and significantly impacts tax liability on small business income. The combined reporting of both personal and business operating income on the owner's personal tax return often exceeds the relatively low personal AMT exemption level. This makes taxpayers calculate and pay the additional Alternative Tax on their business income. This is compounded by the lack of deductibility under the AMT of state income taxes, which in some states can exceed 10%. As a result many small businesses pay federal taxes on business "income" they never received, since it was paid in state income tax. In contrast, the Corporate AMT only applies if the 3-year average annual business income exceeds $7,500,000.

In 2013, Congress made inflation indexing of the personal AMT exemption permanent, but failed to correct many of the underlying issues, that have a major impact on small business owners. Taxpayer Advocate Nina Olson has repeatedly addressed this issue in her annual reports to Congress. She has stated that if the individual AMT is not eliminated, then Congress should ". . . eliminate personal exemptions, the standard deduction, deductible state and local taxes, and miscellaneous itemized deductions, as adjustment items for Individual Alternative Minimum Tax purposes."

Ideally, Congress should eliminate the burden of AMT calculation for most taxpayers, although the cost would be high. The tax code should at least provide better equality in the AMT treatment of "Small Business Operating Income" reported on a personal Form 1040 return, with the far higher "C" corporation AMT exemption.

C. Congress should *permanently* equalize the deductibility, up to a reasonable cost limit, of individual or group health insurance *at the entity level* for *all* forms of businesses, including self-employed entrepreneurs, by amending IRC section 162(1)(4). The deductible limit should be adjusted for average health insurance cost inflation. Without Congressional action to re-instate equal exclusion of health insurance from payroll taxes, the 21 million self-employed again face this self-employment tax penalty for 2015, along with other health insurance cost increases.

D. Congress should permanently enact an exclusion on at least 75% of the gain on Section 1202 qualified small business stock and remove the add-back in the AMT calculation. This could revitalize an important tool for small business financing, particularly if capital gains rates increase in the future. As an alternative, Congress might provide an alternative 20% tax credit for investment in Qualified Small Business Stock held for 5 years or longer.

E. Provide equitable employee cafeteria benefit options for small business owners.

F. Congress should make permanent the $500,000 expensing limitation for Section 179 property, so businesses can plan for future new equipment investments when they are needed under consistent rules. Congress should also make permanent, the ability to revoke Section 179 expensing on amended returns, and to expense "off the shelf" computer software.

G. Make permanent the inclusion of limited non-structural real property improvements under Section 179 expensing.

H. Modernize and simplify the qualified home office deduction.

I. Modernize the unrealistic "Luxury" automobile depreciation limitations. Depreciation and expensing limits for vehicles should be adjusted to allow a person who needs to use an automobile for business to fully recover the cost of a $25,000 vehicle, with 100% business use, during the standard 6-year recovery period. That amount should be periodically adjusted for *average* vehicle costs.

J. Increase the deductibility of business meals for small businesses up to 75%.

K. Return the contribution due date for IRA investments to the extended return due date.

5. International Corporate Tax Policy Recommendations:

Tax the income of U.S. Corporations from controlled foreign business subsidiaries or other investments as current income in the year in which it is earned, on the same basis as income from a U.S. division or investment, less a credit for the foreign income taxes paid. If necessary to facilitate reasonable accounting and tax reporting cycles, some foreign business income could be allowed to be reported in the following tax year. Non income based foreign taxes should also continue to be deductible. The reported income should be based on generally accepted international accounting standards, and be adjusted for any special incentives provided by foreign governments.

When 60% of international corporate assets consist of difficult to value intangibles, the concept of "arm's length" transactions between U.S. corporations and their foreign subsidiaries is no longer practical. The tax code taxes the income from offshore investments of U.S. individuals on the same basis as if the income was received domestically, less the credit for the foreign income taxes paid. The code also taxes businesses with domestic subsidiaries on the basis of their combined income and assets. The same standard should apply to foreign earnings of U.S. corporations. The current tax system does not tax earnings of foreign subsidiaries as U.S. income until they are transferred back to the parent corporation. This allows multinational corporations, particularly those with high intellectual property values, to use inter-division accounting manipulations to transfer taxable profits to divisions in lower tax countries where the earnings can multiply. This not only reduces U.S. tax income, but also creates a tax incentive barrier to recognizing and re-investing those earnings in the U.S. for domestic business growth.

6. National Infrastructure Repair and Improvement Recommendations.

Good infrastructure is vital to continued economic growth. Congress should, as a beginning step repair our deteriorating transportation systems, by rebuilding the depleted Highway Trust Fund. Increase the Highway fuel tax rates, last set in 1993, from 18.4 cents per gallon for Gasoline to at least 30 cents per gallon, with comparable increases for diesel fuel and further increases in later years. This should have been done years ago and gradually phased in, but the current decline in oil prices provides any opportunity for an increase now without significant economic hardship. Reducing our consumption of greenhouse gas producing carbon fuel, and our strategic dependence on foreign oil, are important national objectives. Let the market based incentive of higher fossil fuel costs reduce unnecessary consumption and emissions. The added revenue can be used to help build a modern transportation infrastructure, including good public transit, rather than continuing to send our dollars to foreign oil supplying countries.

Good transportation infrastructure is vital to the U.S. economy, but much of our current system is deteriorating and is inadequate for future needs. The federal transportation program, funded by the federal fuels tax, has been the primary source of system improvement funding, along with state and local funds. After years of watching the program go broke from under funding, Congress rushed through a stop gap measure, Pub. L. 113–159, in August of 2014 that is neither a logical, nor adequate, solution. It reauthorized funding just until May 31, 2015,

and provided no sustainable funding base to rebuild the program. It was "funded" with an increased general fund deficit, and short term revenue scoring from requiring businesses to reduce pension plan funding for workers. This was short sighted, and a better solution needs to be developed.

Transportation projects often take 5 to 30 years from planning to completion and require reliable long term funding sources to be done efficiently. Funding for transportation improvements should also come from those who use and benefit from the system. Because of the progressing changes in modes of transportation and the development of alternative fuel vehicles transportation system funding will probably need to move beyond a simple fuel tax at some point. But, development of new complex funding approaches will probably take years and require major interaction with all the states.

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